

# Laplace B= 1

| < = = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = > |        |        |        |        |        |        |        |        |        |         |
|----------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| True Count                                                                                               | Simu 1 | Simu 2 | Simu 3 | Simu 4 | Simu 5 | Simu 6 | Simu 7 | Simu 8 | Simu 9 | Simu 10 |
| 1                                                                                                        | 0.185  | 0.319  | 0.899  | 1.394  | 2.237  | 6.034  | -1.168 | -3.614 | 1.961  | 0.866   |
| 2                                                                                                        | 1.025  | 0.074  | 3.318  | 1.597  | 4.043  | 5.663  | 1.175  | -2.395 | 4.646  | 1.617   |
| 3                                                                                                        | 2.372  | 0.742  | 6.074  | -0.213 | 4.885  | 7.698  | 4.229  | -1.423 | 4.684  | 3.395   |
| 4                                                                                                        | 4.212  | 1.183  | 7.057  | 1.461  | 5.636  | 9.474  | 4.448  | -1.934 | 6.411  | 4.429   |
| 5                                                                                                        | 6.249  | 2.123  | 8.730  | 0.969  | 4.186  | 5.932  | 5.381  | 0.671  | 8.183  | 5.523   |
| 6                                                                                                        | 7.046  | 5.600  | 9.852  | 1.459  | 4.606  | 7.131  | 5.952  | 1.842  | 9.064  | 2.995   |
| 7                                                                                                        | 7.634  | 5.299  | 10.318 | -0.703 | 5.687  | 6.097  | 7.968  | -0.445 | 11.518 | 4.299   |
| 8                                                                                                        | 8.180  | 6.606  | 11.305 | 0.969  | 5.911  | 7.979  | 8.379  | 0.611  | 12.258 | 5.799   |
| 9                                                                                                        | 9.605  | 7.959  | 9.930  | 3.078  | 10.295 | 8.894  | 8.613  | 1.000  | 13.352 | 3.656   |
| 10                                                                                                       | 10.038 | 9.370  | 10.774 | 2.911  | 11.179 | 11.411 | 7.842  | 2.282  | 12.719 | 3.077   |
| 11                                                                                                       | 10.415 | 9.431  | 11.240 | 3.330  | 13.560 | 13.306 | 9.585  | 3.268  | 14.252 | 2.667   |
| 12                                                                                                       | 10.407 | 9.740  | 11.414 | 4.184  | 13.797 | 16.999 | 13.578 | 4.499  | 14.308 | 1.984   |
| 13                                                                                                       | 11.630 | 7.849  | 13.474 | 5.112  | 14.604 | 16.701 | 13.035 | 6.375  | 15.694 | 1.966   |
| 14                                                                                                       | 13.275 | 9.166  | 15.031 | 4.076  | 16.444 | 20.340 | 14.543 | 5.575  | 15.820 | 1.889   |
| 15                                                                                                       | 14.479 | 10.629 | 16.057 | 4.545  | 16.739 | 21.541 | 15.636 | 6.149  | 15.652 | 2.198   |
| 16                                                                                                       | 16.671 | 11.060 | 15.989 | 5.212  | 18.207 | 15.937 | 15.389 | 9.661  | 16.114 | 6.691   |
| 17                                                                                                       | 17.855 | 11.524 | 16.793 | 7.903  | 19.908 | 18.673 | 16.051 | 8.455  | 20.141 | 5.948   |
| 18                                                                                                       | 17.481 | 11.635 | 19.876 | 10.698 | 21.550 | 23.734 | 16.450 | 8.427  | 20.627 | 6.168   |
| 19                                                                                                       | 18.713 | 11.661 | 20.208 | 11.749 | 23.108 | 24.819 | 18.050 | 13.032 | 19.153 | 7.420   |
| 20                                                                                                       | 20.374 | 13.418 | 21.665 | 13.886 | 24.276 | 25.090 | 17.994 | 14.611 | 19.344 | 5.466   |
| 21                                                                                                       | 19.717 | 14.334 | 22.155 | 13.120 | 24.711 | 25.775 | 19.894 | 13.269 | 20.538 | 7.935   |
| 22                                                                                                       | 17.298 | 16.434 | 23.464 | 14.136 | 25.822 | 28.052 | 20.946 | 14.602 | 21.035 | 9.161   |
| 23                                                                                                       | 14.535 | 17.617 | 20.251 | 15.138 | 26.254 | 29.210 | 22.144 | 15.710 | 22.469 | 9.160   |
| 24                                                                                                       | 16.187 | 17.355 | 21.150 | 16.169 | 26.202 | 29.609 | 23.521 | 15.617 | 23.824 | 12.390  |
| 25                                                                                                       | 17.265 | 18.652 | 21.359 | 16.660 | 28.217 | 31.303 | 22.459 | 17.224 | 25.372 | 16.763  |
| 26                                                                                                       | 17.922 | 18.820 | 22.218 | 17.880 | 28.721 | 31.070 | 24.024 | 18.469 | 26.192 | 18.405  |
| 27                                                                                                       | 20.170 | 19.733 | 22.829 | 18.045 | 30.696 | 33.214 | 21.989 | 17.634 | 27.797 | 19.864  |
| 28                                                                                                       | 21.250 | 17.972 | 24.373 | 20.833 | 36.378 | 33.671 | 21.754 | 20.285 | 30.513 | 20.878  |
| 29                                                                                                       | 18.399 | 20.825 | 24.767 | 21.902 | 36.307 | 35.046 | 22.662 | 18.760 | 32.913 | 21.740  |
| 30                                                                                                       | 19.176 | 21.961 | 26.224 | 24.124 | 36.205 | 36.614 | 23.882 | 21.426 | 34.534 | 21.656  |
| 31                                                                                                       | 19.026 | 21.575 | 26.693 | 26.586 | 35.727 | 36.711 | 24.578 | 23.510 | 36.490 | 22.694  |
| 32                                                                                                       | 19.420 | 22.861 | 27.436 | 27.370 | 36.760 | 37.865 | 25.384 | 25.948 | 38.531 | 21.884  |
| 33                                                                                                       | 20.573 | 24.776 | 27.712 | 29.695 | 38.097 | 38.945 | 26.430 | 27.084 | 39.834 | 23.371  |
| 34                                                                                                       | 22.141 | 25.232 | 29.850 | 33.218 | 38.379 | 39.385 | 27.872 | 24.717 | 42.392 | 26.030  |
| 35                                                                                                       | 23.260 | 26.239 | 30.872 | 33.693 | 39.550 | 38.512 | 28.892 | 25.930 | 41.166 | 27.261  |
| 36                                                                                                       | 25.167 | 25.717 | 32.358 | 36.223 | 38.263 | 39.539 | 30.175 | 27.524 | 41.024 | 27.659  |
| 37                                                                                                       | 27.022 | 26.822 | 31.477 | 38.335 | 38.739 | 42.465 | 30.244 | 28.686 | 42.084 | 28.718  |
| 38                                                                                                       | 27.902 | 27.560 | 34.419 | 38.243 | 38.807 | 41.947 | 37.937 | 32.217 | 41.321 | 29.656  |
| 39                                                                                                       | 27.983 | 27.211 | 35.056 | 37.311 | 39.853 | 44.737 | 38.882 | 33.024 | 44.639 | 30.173  |
| 40                                                                                                       | 30.216 | 27.883 | 35.625 | 38.514 | 36.174 | 45.532 | 40.221 | 34.145 | 49.729 | 32.045  |
| 41                                                                                                       | 31.920 | 27.245 | 36.565 | 40.675 | 36.167 | 46.443 | 41.540 | 35.619 | 50.911 | 32.493  |
| 42                                                                                                       | 33.597 | 27.787 | 39.255 | 40.193 | 37.224 | 48.114 | 42.202 | 39.121 | 50.670 | 33.508  |
| 43                                                                                                       | 36.049 | 28.210 | 35.125 | 41.964 | 37.702 | 48.622 | 43.231 | 40.453 | 51.461 | 34.561  |
| 44                                                                                                       | 38.375 | 29.538 | 34.151 | 42.962 | 38.097 | 50.254 | 43.444 | 39.801 | 52.917 | 35.155  |
| 45                                                                                                       | 40.315 | 30.341 | 37.772 | 45.967 | 39.946 | 55.548 | 41.332 | 40.422 | 53.747 | 36.771  |
| 46                                                                                                       | 42.031 | 32.308 | 38.207 | 46.358 | 42.276 | 55.438 | 41.666 | 40.678 | 53.836 | 37.041  |
| 47                                                                                                       | 44.608 | 33.798 | 37.579 | 46.940 | 43.513 | 55.202 | 41.575 | 43.211 | 54.911 | 37.593  |
| 48                                                                                                       | 45.499 | 34.498 | 39.755 | 48.515 | 45.609 | 53.460 | 41.437 | 42.103 | 56.080 | 38.708  |
| 49                                                                                                       | 44.838 | 35.779 | 40.990 | 45.628 | 47.567 | 57.173 | 42.344 | 42.378 | 56.557 | 39.897  |
| 50                                                                                                       | 45.813 | 39.775 | 41.884 | 46.640 | 49.206 | 58.809 | 41.697 | 43.189 | 56.978 | 40.356  |

|       |           |           |           |           |           |           |           |           |           |           |
|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 51    | 46.319    | 40.966    | 42.763    | 47.843    | 50.910    | 60.149    | 46.168    | 44.174    | 59.474    | 42.855    |
| 52    | 47.823    | 40.174    | 43.273    | 49.391    | 52.240    | 61.018    | 47.063    | 41.847    | 60.445    | 42.927    |
| 53    | 49.425    | 41.390    | 46.748    | 49.800    | 50.172    | 62.420    | 48.485    | 42.871    | 61.814    | 44.072    |
| 54    | 49.184    | 41.463    | 46.615    | 49.435    | 50.213    | 63.307    | 53.118    | 45.535    | 62.290    | 44.391    |
| 55    | 49.823    | 42.905    | 48.032    | 50.525    | 51.243    | 65.247    | 54.423    | 45.686    | 64.069    | 45.433    |
| 56    | 49.946    | 43.800    | 50.533    | 51.214    | 52.849    | 67.245    | 55.371    | 46.787    | 66.498    | 45.968    |
| 57    | 51.067    | 42.302    | 51.563    | 54.451    | 53.356    | 68.372    | 56.812    | 48.088    | 67.233    | 48.661    |
| 58    | 53.614    | 44.693    | 51.800    | 55.578    | 54.249    | 69.362    | 57.273    | 48.943    | 68.256    | 48.246    |
| 59    | 54.377    | 45.992    | 51.733    | 57.239    | 53.079    | 71.481    | 59.187    | 50.341    | 68.046    | 52.190    |
| 60    | 54.559    | 48.110    | 53.501    | 57.908    | 56.451    | 74.038    | 60.241    | 50.389    | 68.302    | 48.424    |
| 61    | 56.960    | 48.771    | 55.108    | 58.822    | 54.178    | 76.440    | 61.244    | 51.063    | 71.193    | 49.812    |
| 62    | 58.206    | 49.767    | 58.585    | 58.032    | 57.925    | 77.968    | 61.992    | 50.571    | 75.013    | 48.617    |
| 63    | 58.858    | 51.822    | 58.888    | 60.179    | 59.955    | 78.765    | 64.017    | 50.981    | 80.966    | 48.688    |
| 64    | 60.304    | 51.451    | 59.802    | 61.218    | 59.763    | 78.851    | 65.035    | 53.829    | 81.388    | 49.540    |
| 65    | 57.433    | 51.939    | 61.390    | 61.513    | 61.920    | 79.807    | 64.624    | 55.493    | 81.909    | 51.413    |
| 66    | 57.795    | 53.625    | 64.194    | 62.202    | 63.391    | 80.758    | 65.194    | 57.563    | 83.082    | 51.347    |
| 67    | 59.322    | 54.983    | 65.474    | 62.814    | 64.432    | 83.214    | 64.978    | 55.847    | 83.416    | 52.426    |
| 68    | 63.332    | 56.253    | 67.692    | 60.595    | 65.362    | 84.285    | 66.123    | 58.570    | 86.096    | 55.034    |
| 69    | 64.376    | 55.797    | 68.375    | 62.225    | 66.850    | 85.835    | 66.460    | 60.486    | 88.052    | 56.725    |
| 70    | 65.519    | 56.001    | 70.241    | 62.875    | 63.647    | 88.031    | 70.278    | 61.414    | 88.896    | 60.054    |
| 71    | 65.896    | 56.689    | 71.106    | 64.386    | 64.357    | 89.470    | 72.355    | 60.090    | 90.010    | 61.190    |
| 72    | 69.417    | 57.818    | 71.535    | 68.149    | 65.280    | 90.715    | 72.664    | 60.320    | 90.776    | 62.381    |
| 73    | 68.115    | 57.815    | 73.057    | 69.322    | 67.097    | 91.107    | 70.750    | 57.640    | 90.847    | 63.487    |
| 74    | 67.529    | 56.509    | 73.870    | 71.192    | 68.880    | 94.434    | 73.623    | 58.065    | 92.120    | 64.551    |
| 75    | 68.707    | 57.488    | 75.162    | 72.742    | 69.802    | 95.655    | 75.760    | 60.703    | 93.135    | 65.257    |
| 76    | 69.441    | 58.466    | 76.887    | 73.809    | 69.646    | 99.672    | 76.348    | 61.849    | 91.311    | 64.137    |
| 77    | 72.267    | 58.932    | 80.010    | 74.391    | 72.598    | 99.797    | 77.666    | 63.298    | 93.286    | 65.130    |
| 78    | 73.727    | 57.533    | 82.013    | 73.696    | 76.252    | 100.857   | 80.088    | 62.769    | 93.809    | 66.301    |
| 79    | 73.994    | 63.850    | 86.571    | 74.529    | 77.312    | 101.902   | 81.364    | 61.328    | 90.864    | 67.947    |
| 80    | 73.920    | 65.655    | 88.415    | 73.027    | 78.058    | 103.315   | 82.975    | 62.131    | 91.989    | 65.484    |
| 81    | 74.947    | 66.849    | 91.164    | 73.934    | 78.068    | 102.373   | 82.169    | 62.142    | 92.637    | 66.587    |
| 82    | 76.700    | 67.532    | 89.504    | 74.635    | 81.737    | 103.180   | 82.677    | 62.403    | 94.582    | 67.810    |
| 83    | 78.526    | 70.877    | 90.585    | 74.984    | 83.851    | 107.576   | 83.506    | 64.749    | 93.208    | 69.227    |
| 84    | 76.620    | 73.329    | 90.968    | 76.048    | 81.054    | 106.342   | 78.974    | 64.834    | 98.335    | 70.810    |
| 85    | 74.897    | 75.008    | 92.524    | 76.830    | 81.481    | 108.369   | 79.950    | 66.539    | 97.542    | 74.074    |
| 86    | 76.380    | 75.595    | 93.647    | 77.760    | 81.274    | 109.886   | 80.113    | 68.395    | 98.560    | 75.020    |
| 87    | 77.831    | 75.134    | 95.435    | 80.112    | 82.571    | 110.251   | 87.135    | 67.068    | 99.871    | 78.912    |
| 88    | 79.166    | 76.331    | 97.211    | 78.188    | 82.676    | 110.019   | 88.631    | 68.568    | 105.218   | 79.760    |
| 89    | 80.378    | 77.069    | 97.978    | 79.405    | 86.177    | 110.910   | 86.946    | 70.032    | 105.921   | 78.643    |
| 90    | 80.790    | 80.858    | 99.933    | 80.148    | 86.665    | 110.644   | 87.955    | 74.433    | 105.852   | 80.038    |
| 91    | 82.584    | 83.141    | 98.306    | 77.771    | 87.712    | 111.037   | 92.409    | 75.151    | 105.773   | 79.224    |
| 92    | 83.142    | 81.103    | 101.181   | 78.451    | 89.179    | 111.296   | 93.085    | 75.928    | 107.276   | 80.442    |
| 93    | 84.884    | 82.867    | 103.488   | 79.500    | 89.326    | 112.076   | 94.206    | 75.718    | 108.622   | 81.478    |
| 94    | 85.978    | 82.077    | 104.613   | 78.449    | 90.818    | 113.163   | 95.721    | 76.088    | 109.208   | 86.153    |
| 95    | 88.316    | 81.930    | 107.197   | 78.949    | 92.029    | 118.250   | 97.271    | 80.036    | 115.312   | 95.332    |
| 96    | 88.184    | 83.181    | 107.119   | 80.402    | 97.110    | 121.395   | 97.985    | 79.751    | 114.383   | 93.239    |
| 97    | 89.014    | 84.842    | 109.429   | 82.138    | 97.879    | 123.058   | 99.747    | 80.618    | 115.979   | 94.453    |
| 98    | 90.532    | 88.119    | 110.043   | 83.075    | 100.851   | 123.604   | 99.943    | 80.898    | 119.794   | 100.687   |
| 99    | 91.767    | 89.535    | 111.000   | 84.765    | 100.937   | 124.711   | 100.983   | 82.950    | 119.808   | 101.248   |
| 100   | 94.870    | 89.009    | 114.077   | 86.536    | 104.174   | 126.704   | 102.552   | 88.963    | 126.323   | 100.201   |
| 101   | 96.050    | 89.932    | 115.392   | 87.682    | 105.786   | 127.897   | 103.808   | 89.358    | 124.726   | 100.910   |
| 128   | 122.268   | 117.822   | 139.135   | 116.040   | 129.089   | 156.566   | 133.292   | 120.710   | 146.473   | 128.627   |
| 256   | 235.479   | 245.683   | 284.978   | 276.899   | 284.731   | 276.221   | 249.574   | 242.207   | 273.997   | 266.901   |
| 512   | 453.001   | 475.699   | 554.803   | 551.815   | 545.643   | 565.096   | 542.159   | 507.144   | 511.745   | 543.608   |
| 1024  | 1018.149  | 946.564   | 1001.859  | 1060.960  | 1118.960  | 1083.846  | 1003.383  | 1005.776  | 1002.677  | 1081.023  |
| 2048  | 1948.184  | 1920.989  | 2099.424  | 1997.270  | 2130.392  | 2114.181  | 1936.182  | 2022.681  | 2008.556  | 2065.139  |
| 4096  | 3905.718  | 4022.173  | 4213.485  | 3915.646  | 4158.151  | 4025.812  | 3869.018  | 3960.371  | 3918.934  | 4089.522  |
| 8192  | 8187.527  | 8112.231  | 8445.419  | 7943.141  | 8301.895  | 8232.605  | 8143.003  | 8047.240  | 7959.503  | 8149.725  |
| 16384 | 16455.891 | 16237.437 | 16602.801 | 16194.197 | 16456.846 | 16649.482 | 16181.774 | 16081.163 | 16402.848 | 16564.910 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 32768     | 33031.594     | 32691.725     | 32582.482     | 32838.285     | 32724.871     | 33118.727     | 32454.596     | 32725.326     | 32747.445     | 33104.953     |
| 65536     | 65688.547     | 65321.996     | 65828.891     | 65208.020     | 66240.906     | 65949.539     | 65647.055     | 65445.539     | 65207.852     | 65854.930     |
| 131072    | 131072.984    | 130635.945    | 131370.500    | 130883.750    | 131835.656    | 131375.297    | 131212.641    | 130587.719    | 131355.656    | 130990.617    |
| 262144    | 262007.750    | 261524.031    | 261872.375    | 262503.312    | 262378.438    | 261729.625    | 261916.578    | 261127.828    | 261707.547    | 261397.234    |
| 524288    | 523620.656    | 524500.625    | 523394.125    | 524205.594    | 524706.250    | 523946.875    | 523031.125    | 523173.938    | 524336.250    | 523322.062    |
| 1048576   | 1045453.060   | 1048598.630   | 1048109.310   | 1047995.060   | 1049378.750   | 1048027.380   | 1047707.750   | 1047369.380   | 1048400.000   | 1047891.190   |
| 2097152   | 2094991.880   | 2096048.500   | 2097762.500   | 2097546.500   | 2098801.250   | 2095575.750   | 2097624.750   | 2097731.000   | 2096143.130   | 2099583.500   |
| 4194304   | 4192217.250   | 4192391.500   | 4194148.500   | 4196903.000   | 4196059.500   | 4192793.250   | 4191864.750   | 4191559.250   | 4190884.750   | 4195592.500   |
| 8388608   | 8386568.500   | 8384644.500   | 8390147.000   | 8393406.000   | 8391559.000   | 8386903.500   | 8385178.500   | 8386676.500   | 8385207.500   | 8389679.000   |
| 16777216  | 16781316.000  | 16778234.000  | 16784588.000  | 16779378.000  | 16780774.000  | 16774200.000  | 16778828.000  | 16777984.000  | 16777780.000  | 16774704.000  |
| 33554432  | 33558092.000  | 33555916.000  | 33559736.000  | 33550488.000  | 33557740.000  | 33560308.000  | 33560524.000  | 33552498.000  | 33554352.000  | 33554924.000  |
| 67108864  | 67109776.000  | 67110680.000  | 67114048.000  | 67091512.000  | 67109568.000  | 67119040.000  | 67112008.000  | 67106656.000  | 67105556.000  | 67120744.000  |
| 134217728 | 134221392.000 | 134224544.000 | 134204328.000 | 134184304.000 | 134205120.000 | 134226064.000 | 134221296.000 | 134213704.000 | 134199456.000 | 134209008.000 |
| 268435456 | 268428384.000 | 268425760.000 | 268396608.000 | 268410304.000 | 268423456.000 | 268467872.000 | 268434832.000 | 268461184.000 | 268399984.000 | 268420480.000 |

# Laplace B= 2

| < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = > |        |        |        |        |        |        |        |         |        |         |
|----------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|
| True Count                                                                                                           | Simu 1 | Simu 2 | Simu 3 | Simu 4 | Simu 5 | Simu 6 | Simu 7 | Simu 8  | Simu 9 | Simu 10 |
| 1                                                                                                                    | 0.727  | -1.254 | -0.568 | 1.466  | -0.329 | -1.311 | -0.210 | 1.315   | -4.948 | 1.446   |
| 2                                                                                                                    | 1.970  | 3.981  | -1.407 | 6.384  | 1.860  | -2.391 | 3.665  | 2.020   | -4.293 | 2.206   |
| 3                                                                                                                    | 2.006  | 3.410  | -2.664 | 9.527  | 7.388  | -2.875 | 4.306  | 1.247   | -4.177 | 3.135   |
| 4                                                                                                                    | 8.287  | 3.586  | -1.028 | 8.915  | 8.115  | -1.333 | 2.354  | 0.992   | -3.523 | 7.763   |
| 5                                                                                                                    | 10.396 | 3.221  | -0.175 | 11.931 | 10.759 | 1.725  | 2.956  | -5.153  | -5.681 | 6.297   |
| 6                                                                                                                    | 11.115 | 6.842  | 5.632  | 14.734 | 11.700 | -0.226 | 5.569  | -3.866  | -4.339 | 10.622  |
| 7                                                                                                                    | 12.069 | 11.358 | 7.145  | 17.620 | 13.784 | 0.955  | 6.680  | -0.042  | -1.339 | 11.875  |
| 8                                                                                                                    | 13.671 | 9.262  | 5.180  | 18.602 | 11.471 | 3.403  | 6.821  | 1.631   | -0.111 | 16.129  |
| 9                                                                                                                    | 11.708 | 12.339 | 7.577  | 22.253 | 9.917  | 4.556  | 2.054  | 2.989   | -1.305 | 18.533  |
| 10                                                                                                                   | 15.366 | 16.167 | 9.141  | 24.241 | 11.863 | 3.691  | 5.033  | 1.354   | 1.082  | 18.196  |
| 11                                                                                                                   | 13.818 | 18.412 | 7.934  | 22.975 | 12.589 | 5.776  | 7.055  | -0.390  | 3.160  | 16.959  |
| 12                                                                                                                   | 16.582 | 18.183 | 8.401  | 23.870 | 16.586 | 12.303 | 3.771  | 0.621   | 4.841  | 20.085  |
| 13                                                                                                                   | 17.801 | 20.019 | 10.473 | 22.189 | 17.186 | 5.891  | 4.363  | -2.458  | 5.642  | 15.989  |
| 14                                                                                                                   | 18.948 | 16.509 | 13.999 | 18.486 | 19.300 | 11.486 | 7.775  | -1.422  | 0.104  | 16.886  |
| 15                                                                                                                   | 19.709 | 15.870 | 12.637 | 19.328 | 19.666 | 8.805  | 10.885 | 1.652   | 0.004  | 17.639  |
| 16                                                                                                                   | 23.552 | 16.380 | 15.942 | 16.535 | 24.716 | 8.518  | 15.207 | 3.704   | 1.025  | 16.237  |
| 17                                                                                                                   | 25.831 | 16.373 | 17.265 | 17.627 | 22.770 | 8.622  | 13.108 | 4.463   | 0.999  | 17.913  |
| 18                                                                                                                   | 29.172 | 6.774  | 19.113 | 18.413 | 27.592 | 10.621 | 13.422 | 5.440   | 3.081  | 19.322  |
| 19                                                                                                                   | 31.191 | 9.663  | 20.395 | 20.430 | 32.368 | 16.671 | 14.524 | 5.656   | 1.186  | 20.684  |
| 20                                                                                                                   | 32.153 | 11.366 | 25.464 | 22.408 | 32.124 | 7.769  | 14.074 | 5.815   | 2.662  | 21.327  |
| 21                                                                                                                   | 34.007 | 14.982 | 26.807 | 22.277 | 32.913 | 8.955  | 9.876  | 6.351   | 0.250  | 22.721  |
| 22                                                                                                                   | 35.120 | 12.012 | 25.987 | 16.750 | 34.440 | 6.422  | 10.964 | 0.669   | 2.069  | 24.003  |
| 23                                                                                                                   | 38.257 | 16.697 | 28.689 | 18.430 | 36.546 | 5.689  | 11.285 | 1.061   | 2.934  | 27.704  |
| 24                                                                                                                   | 41.084 | 16.304 | 30.096 | 20.272 | 36.729 | 6.326  | 13.838 | 0.548   | 4.676  | 31.472  |
| 25                                                                                                                   | 41.347 | 14.598 | 29.420 | 21.602 | 35.651 | 14.770 | 21.062 | -1.388  | 5.068  | 33.546  |
| 26                                                                                                                   | 41.374 | 19.973 | 29.356 | 27.233 | 36.685 | 16.028 | 23.091 | -0.291  | 6.629  | 34.944  |
| 27                                                                                                                   | 40.953 | 20.387 | 30.150 | 26.384 | 36.877 | 17.359 | 24.773 | -0.622  | 4.977  | 43.856  |
| 28                                                                                                                   | 43.410 | 16.332 | 29.685 | 28.431 | 39.465 | 20.139 | 22.737 | -3.783  | 16.219 | 43.526  |
| 29                                                                                                                   | 47.398 | 19.697 | 32.447 | 27.546 | 40.553 | 19.685 | 25.824 | -1.498  | 17.008 | 44.230  |
| 30                                                                                                                   | 49.908 | 23.464 | 28.840 | 28.021 | 47.344 | 24.048 | 25.679 | -2.415  | 19.235 | 52.834  |
| 31                                                                                                                   | 48.447 | 33.035 | 29.692 | 30.651 | 45.997 | 26.996 | 32.116 | 0.873   | 20.956 | 54.370  |
| 32                                                                                                                   | 49.437 | 34.880 | 32.014 | 31.861 | 51.225 | 29.425 | 35.403 | -3.214  | 20.073 | 52.982  |
| 33                                                                                                                   | 50.242 | 36.714 | 32.556 | 33.327 | 50.903 | 29.588 | 38.091 | -1.791  | 22.294 | 51.615  |
| 34                                                                                                                   | 52.265 | 38.979 | 34.025 | 37.629 | 50.325 | 28.398 | 38.188 | -1.995  | 23.885 | 58.530  |
| 35                                                                                                                   | 53.128 | 42.298 | 34.818 | 30.495 | 49.817 | 31.801 | 39.492 | -3.908  | 23.115 | 59.781  |
| 36                                                                                                                   | 53.228 | 44.697 | 36.780 | 31.416 | 50.671 | 40.035 | 39.995 | -9.459  | 22.445 | 59.937  |
| 37                                                                                                                   | 54.519 | 45.420 | 34.823 | 28.547 | 53.302 | 42.074 | 40.054 | -12.210 | 23.297 | 65.325  |
| 38                                                                                                                   | 53.823 | 44.500 | 35.276 | 32.312 | 55.837 | 40.719 | 38.309 | -9.569  | 22.533 | 66.333  |
| 39                                                                                                                   | 56.579 | 44.002 | 39.310 | 39.127 | 57.873 | 40.682 | 45.558 | -3.431  | 23.399 | 68.453  |
| 40                                                                                                                   | 57.640 | 42.888 | 39.118 | 40.923 | 56.863 | 42.550 | 53.858 | 2.603   | 24.133 | 68.183  |
| 41                                                                                                                   | 55.661 | 48.565 | 40.652 | 38.190 | 56.850 | 42.227 | 58.423 | 2.167   | 23.403 | 70.869  |
| 42                                                                                                                   | 56.238 | 52.188 | 42.716 | 39.277 | 61.156 | 43.010 | 60.796 | 2.706   | 31.957 | 68.957  |
| 43                                                                                                                   | 55.245 | 53.455 | 47.850 | 34.394 | 62.367 | 42.428 | 63.391 | 7.208   | 32.305 | 72.188  |
| 44                                                                                                                   | 57.706 | 54.093 | 48.710 | 34.006 | 60.373 | 42.962 | 64.164 | 8.685   | 31.656 | 73.788  |
| 45                                                                                                                   | 57.095 | 55.432 | 49.393 | 33.521 | 61.295 | 44.532 | 62.559 | 9.627   | 30.140 | 75.107  |
| 46                                                                                                                   | 65.642 | 58.124 | 47.396 | 30.323 | 63.511 | 43.749 | 63.940 | 16.043  | 30.878 | 72.809  |
| 47                                                                                                                   | 66.314 | 58.638 | 47.896 | 31.953 | 63.785 | 46.105 | 60.305 | 16.943  | 30.441 | 74.124  |
| 48                                                                                                                   | 64.678 | 61.954 | 49.294 | 31.306 | 65.106 | 47.099 | 63.529 | 17.640  | 28.662 | 76.624  |
| 49                                                                                                                   | 63.913 | 63.951 | 54.442 | 35.493 | 66.311 | 50.600 | 66.279 | 17.758  | 29.292 | 72.699  |
| 50                                                                                                                   | 64.152 | 65.615 | 57.153 | 35.912 | 76.384 | 50.158 | 68.391 | 30.666  | 31.270 | 73.206  |
| 51                                                                                                                   | 64.502 | 66.932 | 58.283 | 41.696 | 77.643 | 47.212 | 67.552 | 32.492  | 30.410 | 74.217  |
| 52                                                                                                                   | 68.637 | 64.891 | 58.811 | 39.405 | 78.888 | 45.389 | 65.908 | 37.589  | 34.141 | 74.111  |
| 53                                                                                                                   | 68.035 | 67.973 | 64.812 | 37.180 | 81.008 | 45.170 | 65.447 | 35.158  | 34.038 | 74.115  |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 68.393     | 67.443     | 66.371     | 38.751     | 81.195     | 48.480     | 65.029     | 36.802     | 32.026     | 76.580     |
| 55     | 65.713     | 60.773     | 67.477     | 42.074     | 80.177     | 50.956     | 67.847     | 37.857     | 30.249     | 80.000     |
| 56     | 69.637     | 62.234     | 68.486     | 42.750     | 79.499     | 53.105     | 70.452     | 37.325     | 35.228     | 82.140     |
| 57     | 72.769     | 63.035     | 72.081     | 38.076     | 84.138     | 54.109     | 72.795     | 38.862     | 32.798     | 80.439     |
| 58     | 72.320     | 62.204     | 76.160     | 42.595     | 87.647     | 54.196     | 76.753     | 37.569     | 35.022     | 79.505     |
| 59     | 72.268     | 63.454     | 79.013     | 44.933     | 85.493     | 55.637     | 82.337     | 41.322     | 32.604     | 79.603     |
| 60     | 66.542     | 63.648     | 81.043     | 45.776     | 91.580     | 56.806     | 83.527     | 41.425     | 31.827     | 80.806     |
| 61     | 67.755     | 66.727     | 82.185     | 44.397     | 90.120     | 64.768     | 81.930     | 38.503     | 31.481     | 79.521     |
| 62     | 69.431     | 67.894     | 80.290     | 45.272     | 92.077     | 68.506     | 79.923     | 39.500     | 29.794     | 77.279     |
| 63     | 73.926     | 73.161     | 80.524     | 45.454     | 90.432     | 74.701     | 75.854     | 40.861     | 32.733     | 82.572     |
| 64     | 75.491     | 69.132     | 83.648     | 48.574     | 94.338     | 77.978     | 77.024     | 44.014     | 33.944     | 83.766     |
| 65     | 77.029     | 71.068     | 82.672     | 46.017     | 94.628     | 83.712     | 80.584     | 40.103     | 34.810     | 81.622     |
| 66     | 83.167     | 72.405     | 84.967     | 41.836     | 91.670     | 84.395     | 82.635     | 41.085     | 35.334     | 91.352     |
| 67     | 86.893     | 75.720     | 78.491     | 39.576     | 94.710     | 88.534     | 78.837     | 49.360     | 36.074     | 89.509     |
| 68     | 87.421     | 75.641     | 72.205     | 43.864     | 94.730     | 89.815     | 73.801     | 44.543     | 40.680     | 85.417     |
| 69     | 88.188     | 77.905     | 74.387     | 47.723     | 96.588     | 91.138     | 70.164     | 45.832     | 42.112     | 86.904     |
| 70     | 87.958     | 88.445     | 73.880     | 45.135     | 98.205     | 98.368     | 69.451     | 46.529     | 44.302     | 85.959     |
| 71     | 88.665     | 88.501     | 71.392     | 52.277     | 97.362     | 105.179    | 70.518     | 42.902     | 47.038     | 91.878     |
| 72     | 89.944     | 87.514     | 75.826     | 53.645     | 93.777     | 103.813    | 72.795     | 44.572     | 49.172     | 94.728     |
| 73     | 95.676     | 89.648     | 77.618     | 56.139     | 101.632    | 103.754    | 74.589     | 41.353     | 49.978     | 97.680     |
| 74     | 94.948     | 88.695     | 82.944     | 53.128     | 100.307    | 106.622    | 76.047     | 39.901     | 45.379     | 101.050    |
| 75     | 97.322     | 88.845     | 85.842     | 57.461     | 100.554    | 109.870    | 73.982     | 43.643     | 48.807     | 103.535    |
| 76     | 98.001     | 91.379     | 78.146     | 58.403     | 101.761    | 111.040    | 76.855     | 45.553     | 49.892     | 105.319    |
| 77     | 101.348    | 91.934     | 80.747     | 59.145     | 105.323    | 112.078    | 80.298     | 45.895     | 50.891     | 107.635    |
| 78     | 102.444    | 93.515     | 80.347     | 60.080     | 106.008    | 110.932    | 83.230     | 46.625     | 49.429     | 103.089    |
| 79     | 100.237    | 97.568     | 80.545     | 61.790     | 102.558    | 113.464    | 76.120     | 57.331     | 54.979     | 100.543    |
| 80     | 101.874    | 99.086     | 81.461     | 59.037     | 102.163    | 116.744    | 78.103     | 59.070     | 56.259     | 100.310    |
| 81     | 105.147    | 99.406     | 82.105     | 69.933     | 98.869     | 118.060    | 79.140     | 62.297     | 57.345     | 101.453    |
| 82     | 102.510    | 97.210     | 78.572     | 71.043     | 97.013     | 118.734    | 74.840     | 63.486     | 58.548     | 103.098    |
| 83     | 102.788    | 96.689     | 80.639     | 71.988     | 96.933     | 122.021    | 78.284     | 59.730     | 57.008     | 106.555    |
| 84     | 105.530    | 92.831     | 77.489     | 71.060     | 99.499     | 120.599    | 80.096     | 61.555     | 58.004     | 107.557    |
| 85     | 106.390    | 91.832     | 76.676     | 79.655     | 93.246     | 122.940    | 81.811     | 60.725     | 61.592     | 105.473    |
| 86     | 105.633    | 93.443     | 76.310     | 78.427     | 94.080     | 122.425    | 83.163     | 62.134     | 61.955     | 113.971    |
| 87     | 104.726    | 95.364     | 76.421     | 78.532     | 98.308     | 122.278    | 85.071     | 62.248     | 62.590     | 113.009    |
| 88     | 105.838    | 95.015     | 75.585     | 77.756     | 96.397     | 124.885    | 80.296     | 64.377     | 64.504     | 115.603    |
| 89     | 106.398    | 93.665     | 80.411     | 79.683     | 96.954     | 120.879    | 81.620     | 71.083     | 63.658     | 115.015    |
| 90     | 108.689    | 94.592     | 82.664     | 77.099     | 95.224     | 121.711    | 83.468     | 71.431     | 61.769     | 116.171    |
| 91     | 109.857    | 95.733     | 82.554     | 78.173     | 100.676    | 121.617    | 83.213     | 72.866     | 83.524     | 115.266    |
| 92     | 121.056    | 94.787     | 82.610     | 80.259     | 102.875    | 123.663    | 91.656     | 77.577     | 86.922     | 113.305    |
| 93     | 121.655    | 94.940     | 86.551     | 81.474     | 105.651    | 121.072    | 95.618     | 79.425     | 91.384     | 110.395    |
| 94     | 123.662    | 93.905     | 88.639     | 81.918     | 105.498    | 122.115    | 94.358     | 79.577     | 89.190     | 111.733    |
| 95     | 126.154    | 95.664     | 89.307     | 81.744     | 106.245    | 120.412    | 95.632     | 85.744     | 90.373     | 112.842    |
| 96     | 129.190    | 95.372     | 89.275     | 84.319     | 107.359    | 121.006    | 95.303     | 90.385     | 89.879     | 109.429    |
| 97     | 132.375    | 93.133     | 90.134     | 88.574     | 107.785    | 124.487    | 95.350     | 92.472     | 84.595     | 108.740    |
| 98     | 134.118    | 94.480     | 91.165     | 84.169     | 110.177    | 124.123    | 93.715     | 100.849    | 85.186     | 117.112    |
| 99     | 137.840    | 99.537     | 95.633     | 85.263     | 111.123    | 125.212    | 93.983     | 102.746    | 84.734     | 119.495    |
| 100    | 139.752    | 97.566     | 96.362     | 96.683     | 109.558    | 124.426    | 95.146     | 103.688    | 85.227     | 120.892    |
| 101    | 138.661    | 99.688     | 97.767     | 96.493     | 109.054    | 129.666    | 98.658     | 104.508    | 84.467     | 122.227    |
| 128    | 165.264    | 117.661    | 134.371    | 122.960    | 126.049    | 132.116    | 122.764    | 133.438    | 123.631    | 131.075    |
| 256    | 317.672    | 291.157    | 246.217    | 234.931    | 288.173    | 215.878    | 282.929    | 324.269    | 222.488    | 237.131    |
| 512    | 586.632    | 580.971    | 524.489    | 530.271    | 575.734    | 499.616    | 559.934    | 606.295    | 489.410    | 499.192    |
| 1024   | 1077.379   | 1095.361   | 1034.905   | 1007.516   | 1065.756   | 1049.740   | 1046.296   | 1286.709   | 1065.013   | 1102.017   |
| 2048   | 2263.158   | 2094.693   | 2084.556   | 1886.472   | 2062.606   | 1905.781   | 1967.702   | 2263.363   | 2081.331   | 2040.926   |
| 4096   | 4049.308   | 4252.865   | 3860.865   | 3881.384   | 4151.773   | 3887.765   | 4084.237   | 4487.566   | 4159.599   | 4150.826   |
| 8192   | 7900.261   | 8465.563   | 7694.067   | 7819.752   | 8370.495   | 8148.047   | 8263.637   | 8725.989   | 8304.715   | 8040.309   |
| 16384  | 15970.840  | 16454.980  | 15795.839  | 16293.432  | 16821.389  | 16167.664  | 16594.998  | 16996.385  | 16770.340  | 16158.555  |
| 32768  | 32064.268  | 32482.637  | 31457.477  | 32659.621  | 33544.059  | 32919.406  | 32591.668  | 33457.945  | 32831.266  | 32124.613  |
| 65536  | 64657.102  | 63756.754  | 65326.785  | 65415.961  | 66115.055  | 64500.773  | 65907.789  | 66423.312  | 65826.922  | 64461.801  |
| 131072 | 129929.797 | 128561.312 | 130511.883 | 131255.719 | 130008.250 | 130224.047 | 132274.234 | 131716.250 | 130514.703 | 130283.922 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 262205.312    | 259701.703    | 262816.031    | 261971.516    | 261961.641    | 262283.562    | 263299.156    | 261687.062    | 260766.312    | 260929.094    |
| 524288    | 524877.750    | 524480.063    | 525712.312    | 524437.750    | 524634.375    | 524183.688    | 525092.062    | 523384.656    | 522389.438    | 524057.625    |
| 1048576   | 1051488.630   | 1048846.000   | 1046383.940   | 1051047.130   | 1049159.250   | 1048544.690   | 1048549.190   | 1046628.060   | 1045708.560   | 1046309.500   |
| 2097152   | 2094982.380   | 2095732.380   | 2094328.630   | 2097285.000   | 2097806.000   | 2101762.750   | 2098300.250   | 2092969.630   | 2098321.000   | 2093648.000   |
| 4194304   | 4194732.500   | 4185090.500   | 4193861.750   | 4196633.500   | 4195907.500   | 4213053.000   | 4192764.250   | 4186378.750   | 4196354.500   | 4184802.500   |
| 8388608   | 8392374.000   | 8375899.500   | 8388576.500   | 8381364.500   | 8389416.000   | 8416766.000   | 8388925.000   | 8378983.500   | 8381667.000   | 8378903.000   |
| 16777216  | 16779190.000  | 16764432.000  | 16779842.000  | 16767793.000  | 16782464.000  | 16804366.000  | 16774588.000  | 16781730.000  | 16773765.000  | 16747357.000  |
| 33554432  | 33551232.000  | 33557412.000  | 33571992.000  | 33532086.000  | 33556304.000  | 33574536.000  | 33564484.000  | 33564328.000  | 33532998.000  | 33511938.000  |
| 67108864  | 67135208.000  | 67096448.000  | 67125048.000  | 67110416.000  | 67094564.000  | 67106148.000  | 67116064.000  | 67137104.000  | 67089604.000  | 67059240.000  |
| 134217728 | 134217232.000 | 134205920.000 | 134231168.000 | 134181256.000 | 134188496.000 | 134238704.000 | 134249488.000 | 134237152.000 | 134175288.000 | 134168344.000 |
| 268435456 | 268454240.000 | 268444160.000 | 268444256.000 | 268364064.000 | 268423376.000 | 268432992.000 | 268541312.000 | 268469696.000 | 268402016.000 | 268407200.000 |

# Laplace B= 3

|            | < = = = = = Differentially Private Count = = = = = > |        |        |         |        |         |        |        |        |         |
|------------|------------------------------------------------------|--------|--------|---------|--------|---------|--------|--------|--------|---------|
| True Count | Simu 1                                               | Simu 2 | Simu 3 | Simu 4  | Simu 5 | Simu 6  | Simu 7 | Simu 8 | Simu 9 | Simu 10 |
| 1          | 1.581                                                | -0.392 | 2.320  | 2.051   | -1.867 | -0.736  | 5.300  | 8.750  | 0.961  | 0.639   |
| 2          | -1.219                                               | 2.997  | -0.406 | 6.550   | -1.067 | 1.002   | 10.149 | 12.794 | -3.736 | -0.776  |
| 3          | -3.561                                               | 9.053  | 3.957  | 8.815   | -4.085 | 8.020   | 13.838 | 13.407 | -2.198 | 6.701   |
| 4          | 0.514                                                | 4.392  | 4.979  | 9.484   | -5.139 | 7.063   | 17.842 | 12.487 | 5.485  | 5.063   |
| 5          | -12.328                                              | 7.363  | 3.166  | 13.876  | -8.000 | 8.466   | 19.377 | 14.674 | 4.710  | 10.616  |
| 6          | -12.259                                              | 9.340  | 1.095  | 9.462   | -7.379 | 8.383   | 25.194 | 12.734 | 4.242  | 10.544  |
| 7          | -14.216                                              | 12.126 | 1.832  | 11.181  | -7.136 | 0.134   | 28.023 | 15.511 | 2.874  | 11.281  |
| 8          | -17.275                                              | 9.813  | 4.544  | 13.069  | -4.157 | 5.998   | 35.998 | 18.415 | -1.060 | 16.550  |
| 9          | -16.295                                              | 6.520  | 7.721  | 13.252  | 4.206  | 6.716   | 40.494 | 14.349 | -3.315 | 10.158  |
| 10         | -21.502                                              | -0.413 | 3.924  | 17.937  | 9.661  | 10.382  | 38.260 | 16.079 | -0.769 | 3.879   |
| 11         | -20.101                                              | -2.375 | 3.625  | 20.420  | 0.599  | -0.263  | 38.532 | 21.415 | -2.537 | -1.452  |
| 12         | -18.457                                              | -3.371 | 2.959  | 12.989  | 4.838  | -7.618  | 48.644 | 10.479 | -1.694 | 1.240   |
| 13         | -14.734                                              | -1.188 | 16.446 | 11.969  | 11.335 | -6.895  | 48.412 | 1.095  | 8.545  | 3.620   |
| 14         | -19.409                                              | 5.385  | 14.159 | 17.942  | 9.984  | -8.200  | 37.350 | 3.195  | 7.572  | 10.096  |
| 15         | -16.276                                              | 6.115  | 17.096 | 21.937  | 16.114 | -9.428  | 28.654 | 4.032  | 11.609 | 9.277   |
| 16         | -14.194                                              | 6.365  | 18.414 | 32.287  | 17.211 | -20.859 | 28.101 | 2.698  | 13.651 | 9.553   |
| 17         | -5.925                                               | 5.917  | 20.616 | 46.452  | 16.289 | -20.221 | 29.108 | 3.076  | 10.559 | 11.489  |
| 18         | -2.428                                               | 2.225  | 24.347 | 47.193  | 18.610 | -26.089 | 26.876 | 4.985  | 2.629  | 19.313  |
| 19         | -8.673                                               | 5.810  | 24.353 | 48.035  | 23.283 | -27.631 | 26.101 | 8.173  | 2.805  | 24.094  |
| 20         | -3.692                                               | 8.172  | 29.185 | 51.061  | 25.633 | -38.062 | 21.568 | 6.829  | 6.620  | 21.463  |
| 21         | 1.412                                                | 10.654 | 24.933 | 52.166  | 26.348 | -37.980 | 24.376 | 24.318 | 8.704  | 18.978  |
| 22         | 4.537                                                | 11.530 | 25.313 | 54.055  | 25.122 | -38.226 | 41.701 | 24.119 | 9.294  | 19.262  |
| 23         | 4.009                                                | 17.527 | 23.646 | 54.528  | 28.397 | -37.454 | 44.564 | 27.691 | 13.945 | 16.494  |
| 24         | 3.044                                                | 19.648 | 30.524 | 61.195  | 29.301 | -36.751 | 46.846 | 40.844 | 12.849 | 15.857  |
| 25         | 1.549                                                | 19.767 | 32.415 | 69.332  | 28.935 | -34.342 | 39.725 | 40.540 | 14.018 | 17.625  |
| 26         | 7.739                                                | 17.301 | 33.270 | 70.092  | 31.538 | -30.496 | 39.684 | 47.998 | 11.703 | 19.434  |
| 27         | 11.445                                               | 16.936 | 34.018 | 77.636  | 32.462 | -26.591 | 41.591 | 50.217 | 13.676 | 18.517  |
| 28         | 11.242                                               | 19.251 | 36.298 | 79.859  | 17.054 | -35.000 | 36.690 | 51.160 | 15.556 | 22.645  |
| 29         | 2.600                                                | 20.785 | 38.611 | 83.263  | 16.946 | -30.270 | 40.086 | 52.627 | 18.251 | 24.934  |
| 30         | 2.345                                                | 22.426 | 31.896 | 86.330  | 21.047 | -30.326 | 40.641 | 50.097 | 20.033 | 30.967  |
| 31         | -0.518                                               | 24.153 | 28.695 | 92.277  | 18.777 | -33.260 | 32.333 | 44.194 | 20.624 | 31.297  |
| 32         | -1.449                                               | 30.269 | 35.794 | 90.255  | 19.760 | -30.501 | 34.870 | 43.421 | 20.038 | 32.950  |
| 33         | -4.225                                               | 33.682 | 34.300 | 90.839  | 20.071 | -35.265 | 35.426 | 44.038 | 15.086 | 32.273  |
| 34         | 4.827                                                | 27.584 | 38.419 | 96.342  | 24.426 | -36.214 | 38.576 | 50.340 | 14.849 | 33.935  |
| 35         | 6.098                                                | 36.576 | 42.028 | 99.278  | 25.586 | -31.089 | 39.574 | 47.124 | 15.609 | 32.669  |
| 36         | 7.701                                                | 34.322 | 42.955 | 104.869 | 28.369 | -31.349 | 33.612 | 45.787 | 14.052 | 32.550  |
| 37         | 8.187                                                | 36.845 | 47.272 | 104.301 | 29.710 | -36.039 | 33.357 | 49.314 | 20.214 | 30.407  |
| 38         | 9.544                                                | 38.032 | 46.984 | 97.354  | 32.834 | -34.556 | 34.959 | 55.058 | 21.786 | 33.533  |
| 39         | 12.808                                               | 36.504 | 50.691 | 100.196 | 31.515 | -33.434 | 38.952 | 54.871 | 21.272 | 40.421  |
| 40         | 15.456                                               | 43.061 | 52.068 | 100.995 | 32.460 | -32.602 | 37.956 | 57.279 | 22.997 | 45.259  |
| 41         | 17.455                                               | 40.540 | 51.442 | 92.166  | 32.003 | -35.742 | 38.587 | 55.887 | 23.641 | 40.246  |
| 42         | 18.778                                               | 39.313 | 53.641 | 92.677  | 28.517 | -36.078 | 40.599 | 58.175 | 12.207 | 39.010  |
| 43         | 20.593                                               | 39.192 | 56.576 | 93.790  | 28.886 | -39.451 | 40.705 | 63.669 | 12.431 | 40.560  |
| 44         | 25.044                                               | 36.744 | 58.248 | 94.859  | 27.623 | -42.847 | 41.682 | 66.417 | 9.464  | 35.956  |
| 45         | 26.658                                               | 39.828 | 66.107 | 96.994  | 27.504 | -41.981 | 42.855 | 75.179 | 8.386  | 40.777  |
| 46         | 27.174                                               | 42.131 | 67.529 | 95.054  | 29.456 | -55.131 | 43.084 | 80.378 | 9.824  | 42.121  |
| 47         | 28.919                                               | 55.141 | 71.648 | 94.768  | 32.165 | -56.646 | 36.633 | 80.800 | 11.120 | 44.314  |
| 48         | 30.450                                               | 53.759 | 71.930 | 101.553 | 34.421 | -55.841 | 34.280 | 82.468 | 12.951 | 39.462  |
| 49         | 30.351                                               | 56.580 | 69.453 | 103.248 | 27.523 | -55.341 | 37.171 | 89.665 | -7.251 | 45.113  |
| 50         | 34.740                                               | 49.687 | 76.789 | 100.487 | 26.315 | -51.219 | 38.100 | 93.865 | -6.661 | 51.141  |
| 51         | 34.738                                               | 51.488 | 80.455 | 102.220 | 29.746 | -59.702 | 32.622 | 95.579 | -6.449 | 47.664  |
| 52         | 31.932                                               | 54.081 | 81.962 | 98.382  | 31.534 | -58.893 | 19.329 | 96.994 | -5.487 | 44.748  |
| 53         | 32.832                                               | 55.866 | 81.716 | 94.466  | 31.750 | -56.714 | 19.648 | 91.698 | -8.764 | 38.429  |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 27.206     | 54.157     | 82.587     | 104.793    | 35.388     | -65.853    | 22.670     | 86.831     | -12.999    | 43.937     |
| 55     | 28.354     | 48.184     | 78.068     | 109.106    | 36.588     | -65.582    | 24.593     | 87.659     | -16.040    | 48.082     |
| 56     | 25.810     | 47.074     | 79.104     | 112.473    | 42.182     | -62.982    | 19.291     | 91.393     | -12.789    | 51.826     |
| 57     | 25.799     | 50.848     | 83.332     | 112.872    | 43.240     | -66.834    | 16.619     | 93.229     | -11.838    | 54.636     |
| 58     | 28.459     | 51.738     | 83.226     | 118.625    | 46.097     | -66.221    | 18.421     | 98.010     | -8.690     | 60.572     |
| 59     | 30.609     | 55.772     | 85.120     | 122.531    | 41.631     | -68.647    | 21.689     | 99.805     | -8.129     | 67.495     |
| 60     | 31.676     | 59.560     | 90.365     | 118.133    | 44.819     | -69.717    | 27.581     | 94.273     | -13.580    | 66.421     |
| 61     | 33.375     | 58.155     | 94.599     | 123.661    | 49.900     | -70.851    | 28.455     | 87.865     | -13.228    | 58.985     |
| 62     | 33.947     | 59.465     | 95.316     | 122.517    | 39.745     | -66.218    | 33.173     | 84.540     | -10.334    | 62.680     |
| 63     | 39.606     | 57.994     | 95.149     | 123.339    | 44.076     | -64.150    | 30.208     | 85.570     | 0.837      | 66.237     |
| 64     | 49.161     | 46.426     | 100.906    | 124.247    | 45.847     | -67.274    | 35.209     | 87.931     | 1.259      | 72.138     |
| 65     | 57.745     | 45.205     | 99.754     | 131.897    | 45.428     | -67.696    | 41.451     | 83.632     | 4.974      | 63.231     |
| 66     | 66.225     | 44.595     | 92.325     | 135.174    | 41.396     | -65.979    | 47.238     | 85.041     | 3.160      | 63.471     |
| 67     | 68.003     | 43.232     | 90.735     | 134.468    | 39.033     | -64.532    | 45.782     | 89.380     | 0.198      | 67.753     |
| 68     | 67.749     | 44.249     | 93.649     | 134.581    | 42.173     | -65.879    | 42.889     | 93.490     | 2.107      | 73.714     |
| 69     | 61.889     | 44.083     | 93.775     | 136.430    | 43.536     | -63.865    | 42.831     | 90.866     | 3.145      | 79.286     |
| 70     | 62.208     | 41.492     | 86.048     | 133.173    | 44.696     | -64.060    | 44.852     | 92.151     | 0.160      | 80.284     |
| 71     | 61.156     | 41.875     | 86.218     | 133.404    | 46.761     | -63.842    | 48.806     | 89.580     | 1.988      | 80.882     |
| 72     | 64.151     | 45.345     | 92.279     | 142.618    | 50.581     | -64.776    | 46.816     | 90.019     | 5.692      | 78.730     |
| 73     | 62.221     | 48.564     | 91.894     | 146.652    | 49.370     | -63.478    | 49.458     | 92.538     | 6.566      | 70.400     |
| 74     | 67.284     | 47.024     | 94.368     | 152.588    | 49.964     | -58.011    | 54.049     | 98.873     | 8.913      | 73.345     |
| 75     | 62.263     | 49.396     | 99.470     | 152.545    | 54.459     | -63.185    | 56.913     | 100.294    | 8.224      | 75.074     |
| 76     | 62.141     | 51.880     | 101.785    | 154.486    | 60.617     | -58.600    | 60.559     | 96.059     | 3.542      | 71.263     |
| 77     | 61.753     | 48.218     | 100.864    | 153.493    | 61.971     | -56.720    | 67.956     | 105.048    | 1.290      | 62.803     |
| 78     | 60.241     | 51.571     | 109.172    | 158.388    | 63.547     | -58.162    | 72.771     | 106.687    | 2.435      | 65.726     |
| 79     | 59.228     | 51.248     | 109.937    | 164.103    | 68.001     | -57.050    | 70.042     | 113.965    | -0.863     | 71.742     |
| 80     | 60.695     | 46.382     | 117.372    | 156.457    | 65.837     | -58.462    | 61.441     | 114.354    | -2.192     | 71.501     |
| 81     | 56.589     | 56.814     | 119.997    | 155.400    | 67.329     | -56.402    | 62.061     | 120.821    | -7.880     | 75.452     |
| 82     | 58.669     | 54.708     | 120.960    | 153.560    | 72.406     | -59.676    | 63.272     | 123.419    | -9.192     | 78.009     |
| 83     | 70.099     | 57.253     | 118.854    | 150.574    | 71.715     | -59.723    | 57.679     | 119.928    | -10.388    | 75.593     |
| 84     | 72.717     | 62.606     | 113.338    | 152.059    | 75.174     | -69.093    | 59.555     | 128.222    | -10.477    | 72.891     |
| 85     | 75.654     | 61.696     | 110.482    | 156.257    | 78.951     | -67.912    | 60.424     | 124.910    | -4.037     | 72.790     |
| 86     | 72.938     | 65.667     | 109.849    | 158.466    | 72.016     | -66.956    | 57.411     | 118.674    | -4.309     | 67.985     |
| 87     | 79.190     | 66.381     | 104.587    | 166.651    | 71.950     | -66.149    | 58.587     | 121.729    | -4.413     | 69.246     |
| 88     | 84.615     | 65.768     | 110.419    | 167.992    | 68.013     | -66.034    | 57.186     | 122.714    | -11.426    | 71.581     |
| 89     | 86.268     | 80.171     | 108.761    | 166.279    | 76.018     | -65.539    | 58.739     | 123.082    | -6.735     | 77.396     |
| 90     | 96.497     | 81.917     | 105.192    | 161.261    | 71.470     | -62.612    | 60.691     | 123.172    | -5.545     | 80.073     |
| 91     | 97.539     | 81.117     | 106.024    | 165.347    | 64.763     | -58.142    | 68.803     | 118.986    | 3.687      | 79.633     |
| 92     | 97.858     | 81.073     | 115.782    | 167.031    | 66.313     | -59.079    | 79.595     | 114.623    | 9.978      | 83.640     |
| 93     | 98.846     | 86.460     | 116.510    | 169.410    | 59.402     | -48.432    | 91.212     | 115.753    | 4.395      | 78.173     |
| 94     | 98.778     | 98.794     | 120.005    | 173.565    | 57.817     | -55.512    | 91.443     | 115.801    | -1.002     | 79.599     |
| 95     | 105.827    | 96.657     | 122.642    | 176.715    | 59.009     | -56.535    | 88.743     | 116.296    | -1.493     | 68.630     |
| 96     | 106.408    | 97.773     | 124.993    | 179.985    | 60.795     | -61.245    | 100.689    | 114.492    | -0.201     | 73.933     |
| 97     | 110.905    | 98.696     | 126.162    | 187.035    | 63.079     | -58.527    | 93.625     | 116.094    | -0.210     | 73.420     |
| 98     | 107.425    | 98.167     | 126.106    | 191.850    | 63.547     | -56.687    | 88.443     | 115.912    | -7.066     | 76.562     |
| 99     | 108.814    | 96.933     | 108.316    | 193.303    | 65.736     | -77.745    | 87.899     | 115.153    | -4.938     | 74.020     |
| 100    | 109.090    | 93.299     | 116.129    | 192.360    | 65.991     | -75.430    | 88.698     | 111.448    | 2.007      | 73.406     |
| 101    | 126.314    | 94.295     | 116.354    | 189.241    | 64.086     | -81.693    | 86.263     | 96.711     | -4.298     | 76.501     |
| 128    | 194.489    | 133.606    | 143.258    | 255.050    | 107.246    | -30.237    | 102.226    | 145.919    | 1.279      | 111.177    |
| 256    | 262.585    | 273.110    | 294.445    | 377.086    | 151.101    | 102.453    | 224.078    | 148.318    | 176.195    | 342.145    |
| 512    | 423.554    | 501.594    | 592.734    | 596.176    | 480.994    | 354.003    | 458.521    | 500.425    | 464.364    | 640.652    |
| 1024   | 824.491    | 977.516    | 1086.638   | 945.693    | 906.045    | 975.979    | 1070.875   | 985.076    | 1094.783   | 984.549    |
| 2048   | 2128.623   | 2108.021   | 2080.820   | 1899.573   | 1695.786   | 2233.083   | 1987.889   | 1991.174   | 2234.551   | 1916.079   |
| 4096   | 4337.045   | 4160.003   | 3982.116   | 4014.864   | 3729.045   | 4166.928   | 4258.646   | 4142.844   | 4633.627   | 3989.487   |
| 8192   | 8199.695   | 8150.072   | 8252.821   | 8034.443   | 8110.100   | 8480.541   | 8355.150   | 8172.582   | 9143.069   | 8653.494   |
| 16384  | 16313.963  | 17188.617  | 16577.219  | 16888.789  | 15935.703  | 16459.838  | 15889.379  | 16460.855  | 17096.756  | 17442.066  |
| 32768  | 33511.910  | 34281.887  | 33868.691  | 33894.145  | 32858.227  | 32299.082  | 32624.029  | 32999.961  | 33333.270  | 33159.621  |
| 65536  | 66332.258  | 66631.664  | 67221.195  | 67698.227  | 64803.238  | 64137.105  | 65204.387  | 65369.105  | 66699.805  | 65727.172  |
| 131072 | 133018.172 | 131575.547 | 131306.547 | 132260.094 | 131758.359 | 133009.047 | 131775.453 | 131706.938 | 132899.656 | 132730.141 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 260761.672    | 263635.531    | 263489.812    | 261933.453    | 263077.531    | 263452.688    | 261794.750    | 264617.938    | 265674.250    | 262898.594    |
| 524288    | 521357.312    | 528345.812    | 521545.688    | 525552.125    | 524264.719    | 528495.812    | 525678.938    | 525256.500    | 523381.188    | 524034.094    |
| 1048576   | 1048100.190   | 1051844.880   | 1045619.190   | 1054389.750   | 1046558.120   | 1056782.750   | 1052271.250   | 1049788.250   | 1046440.620   | 1051081.500   |
| 2097152   | 2097315.500   | 2097611.250   | 2095182.120   | 2098975.500   | 2099207.250   | 2100032.000   | 2104957.250   | 2097509.500   | 2093338.630   | 2099446.750   |
| 4194304   | 4193036.750   | 4196063.000   | 4194363.000   | 4189885.500   | 4192258.000   | 4206153.000   | 4203478.500   | 4194068.750   | 4184924.750   | 4207209.500   |
| 8388608   | 8375290.000   | 8392549.000   | 8377164.000   | 8377770.000   | 8372099.500   | 8404576.000   | 8394223.000   | 8400549.000   | 8385734.500   | 8402438.000   |
| 16777216  | 16766612.000  | 16783920.000  | 16771070.000  | 16761571.000  | 16757602.000  | 16821120.000  | 16780952.000  | 16784240.000  | 16771951.000  | 16794038.000  |
| 33554432  | 33560844.000  | 33596752.000  | 33529604.000  | 33554456.000  | 33559304.000  | 33610676.000  | 33568232.000  | 33563976.000  | 33539344.000  | 33604860.000  |
| 67108864  | 67138592.000  | 67122680.000  | 67072808.000  | 67092080.000  | 67143704.000  | 67189352.000  | 67199360.000  | 67097412.000  | 67121016.000  | 67161384.000  |
| 134217728 | 134224432.000 | 134248704.000 | 134191336.000 | 134214200.000 | 134213512.000 | 134298848.000 | 134360992.000 | 134284352.000 | 134217600.000 | 134287680.000 |
| 268435456 | 268474656.000 | 268415872.000 | 268375040.000 | 268344544.000 | 268431664.000 | 268492352.000 | 268546016.000 | 268466752.000 | 268381408.000 | 268521408.000 |

# Laplace B= 4

| < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = > |        |         |        |         |         |         |         |         |        |         |
|--------------------------------------------------------------------------------------------------------------------|--------|---------|--------|---------|---------|---------|---------|---------|--------|---------|
| True Count                                                                                                         | Simu 1 | Simu 2  | Simu 3 | Simu 4  | Simu 5  | Simu 6  | Simu 7  | Simu 8  | Simu 9 | Simu 10 |
| 1                                                                                                                  | -5.578 | -1.724  | -0.499 | -0.574  | -2.613  | 7.787   | 0.334   | 3.265   | 3.865  | 1.086   |
| 2                                                                                                                  | -2.022 | -4.260  | -1.924 | 0.658   | -1.039  | 22.181  | 0.114   | 2.468   | 4.241  | -0.116  |
| 3                                                                                                                  | 10.809 | -7.854  | 1.139  | -0.108  | -2.537  | 24.818  | 5.473   | 12.517  | 7.778  | 7.809   |
| 4                                                                                                                  | 14.664 | 0.582   | 2.107  | 4.997   | 0.603   | 19.286  | 9.047   | 13.538  | 11.356 | 12.198  |
| 5                                                                                                                  | 15.057 | 3.198   | 4.756  | 12.693  | 6.343   | 30.411  | 12.286  | 15.217  | -0.451 | 13.277  |
| 6                                                                                                                  | 12.399 | 1.813   | 2.616  | 8.932   | 2.284   | 29.220  | 15.194  | 15.675  | 1.685  | 12.788  |
| 7                                                                                                                  | 18.921 | -10.777 | 1.255  | 15.449  | -8.457  | 39.690  | 21.664  | -2.865  | 3.245  | 17.001  |
| 8                                                                                                                  | 15.242 | -14.585 | 3.624  | 16.310  | -7.393  | 41.235  | 22.616  | -6.880  | 2.858  | 29.252  |
| 9                                                                                                                  | 18.866 | -13.951 | 18.511 | 15.187  | -7.776  | 36.923  | 24.496  | -3.542  | 3.602  | 34.133  |
| 10                                                                                                                 | 17.870 | -12.315 | 17.416 | 8.024   | -6.991  | 32.099  | 26.259  | -2.718  | 3.557  | 41.593  |
| 11                                                                                                                 | 20.572 | -9.323  | 25.058 | -4.143  | -3.125  | 37.537  | 39.333  | 4.554   | 2.702  | 51.840  |
| 12                                                                                                                 | 26.969 | -8.426  | 22.550 | -4.279  | -3.715  | 37.940  | 21.226  | 4.664   | 14.078 | 42.210  |
| 13                                                                                                                 | 27.500 | -13.495 | 26.949 | 5.418   | -11.994 | 39.571  | 35.843  | 8.422   | 13.523 | 39.955  |
| 14                                                                                                                 | 25.364 | -18.355 | 28.036 | 6.480   | -14.658 | 42.378  | 27.328  | 8.405   | 18.179 | 39.811  |
| 15                                                                                                                 | 24.925 | -20.650 | 22.182 | 3.389   | -11.516 | 49.476  | 37.561  | 3.100   | 19.775 | 41.382  |
| 16                                                                                                                 | 24.818 | -19.718 | 23.272 | 2.095   | -9.122  | 50.064  | 38.871  | 6.865   | 28.729 | 50.083  |
| 17                                                                                                                 | 26.112 | -17.774 | 36.287 | 4.135   | -8.190  | 51.718  | 44.295  | 4.894   | 32.568 | 49.679  |
| 18                                                                                                                 | 24.306 | -12.676 | 38.432 | 2.420   | -9.212  | 51.428  | 33.931  | 12.185  | 34.054 | 51.630  |
| 19                                                                                                                 | 20.514 | -10.246 | 34.554 | 2.127   | -23.267 | 56.418  | 34.871  | 16.146  | 33.521 | 61.795  |
| 20                                                                                                                 | 9.418  | -22.078 | 36.585 | -1.738  | -11.305 | 56.683  | 40.347  | 17.783  | 45.841 | 61.602  |
| 21                                                                                                                 | 6.164  | -21.674 | 35.613 | -3.272  | -7.031  | 55.850  | 39.859  | 17.161  | 49.632 | 54.549  |
| 22                                                                                                                 | 6.662  | -16.742 | 55.064 | -9.544  | -10.466 | 55.312  | 42.915  | 16.624  | 49.236 | 59.897  |
| 23                                                                                                                 | 8.838  | -13.171 | 55.762 | -20.379 | -8.122  | 56.581  | 50.971  | 0.436   | 38.807 | 57.208  |
| 24                                                                                                                 | 6.376  | -12.581 | 57.221 | -20.665 | -4.799  | 57.344  | 51.628  | 1.660   | 39.971 | 55.901  |
| 25                                                                                                                 | 11.480 | -23.209 | 52.875 | -26.031 | 2.941   | 58.478  | 59.003  | -9.908  | 45.918 | 55.663  |
| 26                                                                                                                 | 11.055 | -32.134 | 49.455 | -26.878 | -3.182  | 51.418  | 64.986  | -18.417 | 43.833 | 37.680  |
| 27                                                                                                                 | 11.138 | -35.276 | 47.712 | -27.428 | -6.769  | 51.805  | 71.327  | -21.160 | 39.468 | 37.697  |
| 28                                                                                                                 | 10.013 | -22.820 | 38.300 | -22.010 | -3.630  | 77.992  | 63.429  | -23.521 | 44.736 | 35.667  |
| 29                                                                                                                 | 8.444  | -8.534  | 42.616 | -26.361 | -2.638  | 77.612  | 59.996  | -23.407 | 45.982 | 23.973  |
| 30                                                                                                                 | 11.680 | -8.967  | 41.138 | -24.787 | -3.222  | 80.296  | 62.614  | -23.162 | 30.684 | 25.338  |
| 31                                                                                                                 | 14.833 | -7.612  | 46.818 | -19.378 | 0.222   | 84.027  | 57.532  | -33.040 | 34.255 | 25.831  |
| 32                                                                                                                 | 16.109 | -8.659  | 55.647 | -20.901 | -3.497  | 84.478  | 68.282  | -31.539 | 28.271 | 25.787  |
| 33                                                                                                                 | 18.878 | -12.215 | 59.350 | -20.754 | -8.779  | 89.440  | 69.312  | -35.600 | 31.248 | 21.529  |
| 34                                                                                                                 | 20.505 | -13.442 | 60.816 | -8.248  | -13.143 | 91.598  | 61.107  | -12.775 | 23.948 | 27.051  |
| 35                                                                                                                 | 11.981 | -17.794 | 65.311 | -4.549  | -9.934  | 91.807  | 62.607  | -6.199  | 17.664 | 34.193  |
| 36                                                                                                                 | 13.122 | -19.350 | 80.585 | -15.218 | -6.454  | 92.311  | 63.629  | -7.846  | 9.536  | 32.012  |
| 37                                                                                                                 | 14.808 | -17.736 | 81.323 | -11.622 | -0.604  | 90.916  | 64.448  | 0.981   | 4.018  | 32.613  |
| 38                                                                                                                 | 26.471 | -10.404 | 79.703 | -15.539 | 1.830   | 97.201  | 71.429  | 5.816   | 7.359  | 35.953  |
| 39                                                                                                                 | 19.417 | -23.320 | 67.300 | -16.693 | -5.849  | 98.466  | 80.619  | 6.703   | 7.493  | 43.551  |
| 40                                                                                                                 | 18.150 | -22.798 | 54.360 | -11.075 | -1.767  | 100.755 | 79.490  | 8.399   | 6.953  | 43.840  |
| 41                                                                                                                 | 22.036 | -27.384 | 62.241 | -17.114 | 0.321   | 101.580 | 81.725  | 0.272   | 10.020 | 45.295  |
| 42                                                                                                                 | 17.288 | -27.609 | 65.509 | -13.219 | -5.758  | 100.444 | 94.729  | 3.662   | 5.820  | 50.018  |
| 43                                                                                                                 | 22.440 | -29.187 | 56.642 | -6.463  | -4.772  | 102.454 | 104.227 | 1.057   | 1.063  | 50.182  |
| 44                                                                                                                 | 29.572 | -26.864 | 54.857 | -13.878 | -4.470  | 105.114 | 100.527 | -1.275  | -1.552 | 50.792  |
| 45                                                                                                                 | 30.714 | -25.589 | 50.674 | -9.272  | 9.909   | 101.600 | 105.271 | -1.399  | -1.962 | 48.012  |
| 46                                                                                                                 | 31.185 | -19.684 | 38.098 | -20.724 | 21.368  | 110.702 | 94.724  | -1.957  | 9.162  | 63.371  |
| 47                                                                                                                 | 35.431 | -14.724 | 41.471 | -17.328 | 12.021  | 117.393 | 95.473  | -12.661 | 13.264 | 71.565  |
| 48                                                                                                                 | 36.472 | -16.755 | 53.795 | -15.841 | 17.539  | 119.909 | 101.533 | -13.900 | 17.582 | 68.719  |
| 49                                                                                                                 | 35.523 | -15.680 | 46.093 | -7.593  | 10.236  | 120.564 | 94.942  | -7.182  | 23.227 | 77.770  |
| 50                                                                                                                 | 39.924 | -3.712  | 49.335 | -5.491  | 8.904   | 119.308 | 92.838  | -4.004  | 22.410 | 80.160  |
| 51                                                                                                                 | 38.968 | -0.243  | 47.462 | -3.926  | 9.161   | 120.395 | 94.452  | -4.852  | 23.088 | 83.603  |
| 52                                                                                                                 | 32.887 | 0.968   | 48.518 | -4.099  | 9.889   | 116.110 | 97.707  | -3.367  | 2.257  | 83.652  |
| 53                                                                                                                 | 33.756 | 11.396  | 40.442 | -5.876  | -3.011  | 121.146 | 93.168  | -3.193  | -2.105 | 87.698  |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 34.488     | 11.015     | 53.995     | -5.439     | 1.986      | 118.801    | 96.638     | -2.608     | -1.339     | 94.636     |
| 55     | 34.406     | 11.951     | 43.769     | -7.824     | 0.428      | 118.876    | 102.008    | 1.844      | -0.455     | 90.577     |
| 56     | 36.359     | 24.692     | 44.687     | -18.104    | -0.060     | 118.677    | 110.353    | 7.348      | 11.398     | 86.790     |
| 57     | 35.476     | 23.026     | 46.396     | 16.400     | -1.914     | 119.856    | 102.433    | 12.205     | 15.293     | 93.082     |
| 58     | 51.271     | 23.182     | 45.015     | 13.609     | 1.907      | 121.250    | 99.102     | 9.812      | 13.899     | 102.944    |
| 59     | 57.730     | 27.729     | 35.857     | 12.915     | 1.772      | 128.919    | 101.344    | 8.474      | 15.413     | 100.211    |
| 60     | 55.610     | 31.812     | 41.103     | 16.655     | 8.323      | 130.363    | 96.758     | 17.487     | 14.661     | 102.502    |
| 61     | 55.641     | 39.914     | 53.381     | 5.817      | 9.755      | 117.312    | 103.660    | 19.716     | 18.030     | 104.685    |
| 62     | 50.230     | 42.296     | 47.568     | 7.059      | 1.909      | 121.265    | 107.304    | 13.898     | 25.555     | 103.208    |
| 63     | 50.039     | 45.851     | 46.745     | 6.428      | -19.508    | 122.628    | 104.126    | 9.133      | 27.341     | 108.026    |
| 64     | 47.156     | 46.797     | 42.508     | 17.382     | -14.692    | 123.837    | 114.892    | 18.904     | 26.707     | 119.625    |
| 65     | 48.852     | 47.775     | 42.987     | 17.213     | -16.170    | 118.205    | 119.989    | 19.144     | 32.339     | 113.179    |
| 66     | 53.803     | 48.363     | 42.582     | 12.164     | -16.961    | 119.844    | 120.712    | 20.954     | 33.698     | 121.218    |
| 67     | 56.752     | 49.928     | 56.611     | 14.665     | -17.852    | 122.445    | 121.158    | 20.428     | 28.338     | 121.668    |
| 68     | 53.681     | 52.410     | 56.939     | 19.934     | -20.236    | 131.097    | 120.200    | 23.462     | 28.903     | 129.007    |
| 69     | 46.781     | 54.965     | 48.403     | 22.887     | -27.039    | 133.508    | 127.418    | 22.103     | 27.377     | 128.334    |
| 70     | 56.747     | 57.846     | 44.877     | 23.570     | -24.216    | 141.767    | 125.835    | 26.922     | 29.787     | 135.004    |
| 71     | 53.632     | 52.426     | 48.833     | 23.468     | -27.425    | 141.506    | 122.496    | 31.708     | 30.742     | 135.611    |
| 72     | 59.022     | 55.296     | 50.869     | 24.126     | -34.577    | 140.134    | 131.737    | 38.720     | 44.155     | 127.096    |
| 73     | 61.728     | 53.296     | 52.530     | 26.698     | -33.879    | 150.235    | 125.695    | 44.394     | 41.349     | 121.670    |
| 74     | 62.863     | 54.825     | 47.203     | 30.207     | -42.411    | 152.506    | 120.118    | 32.777     | 23.162     | 123.969    |
| 75     | 65.580     | 57.813     | 58.482     | 27.357     | -47.755    | 152.757    | 125.840    | 27.955     | 32.919     | 115.527    |
| 76     | 65.835     | 59.223     | 50.114     | 25.689     | -46.607    | 149.595    | 127.496    | 20.389     | 45.163     | 117.987    |
| 77     | 66.261     | 60.343     | 51.196     | 32.680     | -51.393    | 152.225    | 110.768    | 22.303     | 53.747     | 118.501    |
| 78     | 68.518     | 59.960     | 56.096     | 27.288     | -52.218    | 153.665    | 118.246    | 22.944     | 52.886     | 120.064    |
| 79     | 69.758     | 55.005     | 53.287     | 43.227     | -48.941    | 155.544    | 124.101    | 25.913     | 52.415     | 109.159    |
| 80     | 66.957     | 54.704     | 53.246     | 38.172     | -49.054    | 145.889    | 132.564    | 32.814     | 56.480     | 109.389    |
| 81     | 68.483     | 58.470     | 46.807     | 39.295     | -59.289    | 147.699    | 129.211    | 36.266     | 54.588     | 112.144    |
| 82     | 72.825     | 65.983     | 49.468     | 42.092     | -58.051    | 152.517    | 124.167    | 26.181     | 51.131     | 106.804    |
| 83     | 70.180     | 72.258     | 50.161     | 45.276     | -58.752    | 142.396    | 125.517    | 27.861     | 57.181     | 101.437    |
| 84     | 79.202     | 73.693     | 50.315     | 50.726     | -61.660    | 147.190    | 115.713    | 25.462     | 60.101     | 106.263    |
| 85     | 78.519     | 74.434     | 30.559     | 50.830     | -66.111    | 149.691    | 116.325    | 41.657     | 63.569     | 102.361    |
| 86     | 76.734     | 76.585     | 30.829     | 54.114     | -63.995    | 147.458    | 118.367    | 48.747     | 59.627     | 103.128    |
| 87     | 67.831     | 78.738     | 28.089     | 66.979     | -67.133    | 136.539    | 121.924    | 49.983     | 61.743     | 101.091    |
| 88     | 72.653     | 83.233     | 39.294     | 63.434     | -69.177    | 125.401    | 121.779    | 45.652     | 57.559     | 99.054     |
| 89     | 78.548     | 84.857     | 46.896     | 68.453     | -70.500    | 123.804    | 125.245    | 48.139     | 40.237     | 102.807    |
| 90     | 75.433     | 86.163     | 42.183     | 69.630     | -71.089    | 120.163    | 126.918    | 45.307     | 42.068     | 102.678    |
| 91     | 76.952     | 98.276     | 43.021     | 74.565     | -68.222    | 125.231    | 135.774    | 48.882     | 53.204     | 101.862    |
| 92     | 78.403     | 99.644     | 52.140     | 67.591     | -69.413    | 134.783    | 135.545    | 56.868     | 61.540     | 105.378    |
| 93     | 85.251     | 98.503     | 52.580     | 71.850     | -64.880    | 144.798    | 138.723    | 58.284     | 70.680     | 104.769    |
| 94     | 80.649     | 94.050     | 52.661     | 60.934     | -70.093    | 148.296    | 162.834    | 81.929     | 75.888     | 106.405    |
| 95     | 91.257     | 92.822     | 52.026     | 60.033     | -69.594    | 157.891    | 152.758    | 90.730     | 81.785     | 94.997     |
| 96     | 103.911    | 92.358     | 50.753     | 62.195     | -71.899    | 165.554    | 154.003    | 99.897     | 93.492     | 95.706     |
| 97     | 104.913    | 102.520    | 45.007     | 69.572     | -72.491    | 165.386    | 167.853    | 95.322     | 97.681     | 103.168    |
| 98     | 100.592    | 99.201     | 53.876     | 53.286     | -54.253    | 166.253    | 161.090    | 94.909     | 105.799    | 102.842    |
| 99     | 109.667    | 104.797    | 38.460     | 49.536     | -36.178    | 164.457    | 163.380    | 101.607    | 108.747    | 107.426    |
| 100    | 121.940    | 122.065    | 38.308     | 50.238     | -34.256    | 160.225    | 163.532    | 105.455    | 109.990    | 100.708    |
| 101    | 120.606    | 113.688    | 36.518     | 49.820     | -29.125    | 155.881    | 167.271    | 101.367    | 114.217    | 96.219     |
| 128    | 224.466    | 159.811    | 62.682     | 82.344     | -6.562     | 174.169    | 204.562    | 119.613    | 169.725    | 129.828    |
| 256    | 387.691    | 271.345    | 71.979     | 239.683    | 148.445    | 468.568    | 241.732    | 155.183    | 307.463    | 301.589    |
| 512    | 626.240    | 528.045    | 383.404    | 669.156    | 374.148    | 780.544    | 485.319    | 508.953    | 498.569    | 509.825    |
| 1024   | 1155.648   | 1085.361   | 686.638    | 1396.236   | 905.231    | 1344.493   | 1303.462   | 984.079    | 874.980    | 1090.864   |
| 2048   | 1880.691   | 1874.683   | 1864.393   | 2499.218   | 2039.832   | 2484.292   | 2222.531   | 1994.999   | 2306.569   | 1734.748   |
| 4096   | 3967.846   | 3785.762   | 4164.766   | 4531.692   | 3507.784   | 4652.967   | 4409.938   | 3969.705   | 4554.498   | 3721.849   |
| 8192   | 8266.612   | 8435.802   | 7937.517   | 8515.602   | 7458.602   | 8418.714   | 7884.717   | 7703.656   | 8161.396   | 7520.354   |
| 16384  | 15770.071  | 16601.223  | 16490.793  | 16631.910  | 16510.092  | 16979.648  | 16255.650  | 16074.531  | 15838.323  | 16603.783  |
| 32768  | 31619.262  | 31989.785  | 34228.551  | 32625.248  | 32096.049  | 34125.309  | 31234.412  | 32707.232  | 31683.914  | 32033.480  |
| 65536  | 63332.410  | 63011.637  | 69048.969  | 65856.594  | 64190.340  | 67761.719  | 65573.211  | 66780.836  | 62946.676  | 64574.418  |
| 131072 | 126758.812 | 130261.781 | 133609.547 | 130911.156 | 130750.000 | 131848.672 | 131364.688 | 133163.344 | 128640.930 | 130032.742 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 256612.703    | 263527.594    | 263343.406    | 261762.828    | 260399.953    | 260958.234    | 260654.797    | 266623.375    | 262064.562    | 264427.438    |
| 524288    | 518191.219    | 524591.438    | 529173.875    | 527789.062    | 523706.188    | 523079.250    | 519038.938    | 531646.500    | 523727.594    | 526307.188    |
| 1048576   | 1045568.690   | 1044480.060   | 1048764.620   | 1055242.130   | 1048288.880   | 1051431.750   | 1039944.560   | 1049673.880   | 1052448.880   | 1055418.380   |
| 2097152   | 2092403.380   | 2095029.250   | 2100575.000   | 2109624.000   | 2103381.250   | 2092880.500   | 2099661.000   | 2101660.000   | 2100905.500   | 2106443.250   |
| 4194304   | 4191721.750   | 4198236.000   | 4209013.000   | 4206315.000   | 4204611.000   | 4181274.250   | 4212069.000   | 4210880.500   | 4206336.000   | 4214753.500   |
| 8388608   | 8391098.000   | 8396341.000   | 8426859.000   | 8403585.000   | 8391782.000   | 8357675.000   | 8400379.000   | 8408217.000   | 8413975.000   | 8409025.000   |
| 16777216  | 16781576.000  | 16782152.000  | 16817102.000  | 16769101.000  | 16751837.000  | 16764245.000  | 16806796.000  | 16796556.000  | 16812640.000  | 16805758.000  |
| 33554432  | 33552842.000  | 33587740.000  | 33604016.000  | 33518300.000  | 33523664.000  | 33537888.000  | 33595896.000  | 33544088.000  | 33621964.000  | 33556380.000  |
| 67108864  | 67102816.000  | 67145784.000  | 67182560.000  | 67049060.000  | 67099564.000  | 67096972.000  | 67165224.000  | 67051080.000  | 67202448.000  | 67153928.000  |
| 134217728 | 134193512.000 | 134217616.000 | 134303136.000 | 134076448.000 | 134262128.000 | 134250496.000 | 134324160.000 | 134119680.000 | 134309712.000 | 134236944.000 |
| 268435456 | 268378368.000 | 268443840.000 | 268585504.000 | 268361408.000 | 268331344.000 | 268369280.000 | 268522432.000 | 268356208.000 | 268343360.000 | 268540000.000 |

# Laplace B= 5

| < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = > |         |         |         |         |        |        |         |         |         |         |
|----------------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|--------|--------|---------|---------|---------|---------|
| True Count                                                                                                           | Simu 1  | Simu 2  | Simu 3  | Simu 4  | Simu 5 | Simu 6 | Simu 7  | Simu 8  | Simu 9  | Simu 10 |
| 1                                                                                                                    | 1.048   | 1.215   | 4.849   | -3.205  | 6.435  | 1.925  | 0.401   | -0.405  | -0.712  | -0.858  |
| 2                                                                                                                    | 10.158  | 6.664   | -0.411  | -1.787  | 8.303  | 9.134  | 14.214  | 0.505   | -12.572 | -4.526  |
| 3                                                                                                                    | 11.161  | 10.998  | 0.758   | -0.382  | 9.601  | 5.688  | 12.443  | 1.435   | -11.138 | -9.489  |
| 4                                                                                                                    | 6.776   | 8.963   | -15.427 | 3.981   | 15.245 | 7.026  | 10.534  | 1.145   | -14.793 | -19.480 |
| 5                                                                                                                    | 10.624  | 13.618  | -13.129 | 8.466   | 17.859 | 11.375 | 11.929  | 2.030   | -24.038 | -15.317 |
| 6                                                                                                                    | 21.603  | 18.515  | -20.370 | -17.075 | 19.770 | 22.369 | 6.679   | 0.639   | -22.768 | -6.940  |
| 7                                                                                                                    | -8.804  | 15.852  | -19.171 | -26.909 | 11.099 | 27.550 | 6.676   | -3.801  | -24.666 | 7.042   |
| 8                                                                                                                    | -19.539 | 15.735  | -21.927 | -27.031 | 15.267 | 19.687 | 5.024   | -7.232  | -21.672 | 8.173   |
| 9                                                                                                                    | -14.815 | 20.220  | -22.728 | -25.776 | 12.759 | 20.552 | 1.685   | -7.520  | -3.162  | 23.983  |
| 10                                                                                                                   | -29.283 | 30.784  | -20.063 | -21.048 | 21.035 | 22.632 | 2.663   | -11.653 | -5.939  | 21.693  |
| 11                                                                                                                   | -27.058 | 30.641  | -31.129 | -23.159 | 26.311 | 21.409 | 4.614   | -13.135 | -9.713  | 36.707  |
| 12                                                                                                                   | -18.415 | 27.939  | -30.959 | -17.809 | 29.593 | 21.830 | 4.750   | -0.328  | -10.010 | 27.357  |
| 13                                                                                                                   | -16.342 | 21.659  | -34.664 | -19.349 | 38.767 | 22.509 | 5.427   | -0.823  | -7.315  | 31.954  |
| 14                                                                                                                   | -8.783  | 22.700  | -29.988 | -15.313 | 39.764 | 18.127 | 11.925  | 1.080   | -6.196  | 35.753  |
| 15                                                                                                                   | -19.177 | 21.651  | -42.337 | -15.708 | 41.653 | 25.602 | 12.305  | 2.457   | -6.764  | 30.664  |
| 16                                                                                                                   | -21.119 | 31.378  | -30.780 | -19.250 | 43.102 | 31.364 | 18.939  | 3.244   | -4.956  | 45.386  |
| 17                                                                                                                   | -16.269 | 32.221  | -25.248 | -16.058 | 35.619 | 12.496 | 18.815  | 0.371   | -4.252  | 37.844  |
| 18                                                                                                                   | -14.746 | 32.791  | -24.681 | -21.324 | 28.831 | 24.083 | 16.148  | 2.485   | -1.974  | 45.690  |
| 19                                                                                                                   | -13.438 | 41.926  | -24.281 | -13.437 | 38.500 | 22.106 | 19.450  | 9.746   | -0.852  | 45.159  |
| 20                                                                                                                   | -19.838 | 47.870  | -25.121 | -23.598 | 36.612 | 21.609 | 22.490  | 10.897  | -3.186  | 42.417  |
| 21                                                                                                                   | -29.960 | 49.428  | -21.314 | -42.619 | 45.881 | 29.315 | 22.019  | 19.165  | 4.534   | 48.017  |
| 22                                                                                                                   | -30.957 | 55.375  | -17.548 | -48.586 | 40.618 | 36.771 | 21.604  | 24.255  | -0.039  | 50.450  |
| 23                                                                                                                   | -50.417 | 57.680  | -12.874 | -45.613 | 42.059 | 39.097 | 14.776  | 21.264  | -3.697  | 47.757  |
| 24                                                                                                                   | -46.123 | 61.676  | -11.283 | -54.020 | 36.335 | 40.757 | 11.550  | 32.281  | -2.068  | 59.208  |
| 25                                                                                                                   | -39.926 | 66.364  | -11.487 | -50.658 | 38.649 | 35.516 | 8.899   | 40.272  | -17.415 | 61.812  |
| 26                                                                                                                   | -34.159 | 71.479  | -10.015 | -47.188 | 44.858 | 36.772 | 8.693   | 25.380  | -42.409 | 72.815  |
| 27                                                                                                                   | -23.049 | 78.203  | -6.219  | -49.223 | 42.076 | 35.532 | 6.134   | 29.488  | -41.446 | 70.520  |
| 28                                                                                                                   | -20.068 | 90.657  | -6.894  | -52.061 | 52.010 | 40.079 | -1.481  | 27.324  | -38.985 | 71.688  |
| 29                                                                                                                   | -19.355 | 99.859  | 6.954   | -58.327 | 58.626 | 42.095 | 5.514   | 19.044  | -34.572 | 70.542  |
| 30                                                                                                                   | -17.926 | 104.437 | 6.364   | -57.749 | 53.137 | 42.979 | 7.746   | 21.064  | -33.246 | 71.756  |
| 31                                                                                                                   | -17.673 | 103.959 | 2.862   | -63.006 | 53.148 | 39.955 | 13.372  | 20.472  | -39.064 | 70.417  |
| 32                                                                                                                   | -19.676 | 109.768 | 6.274   | -58.228 | 61.048 | 47.400 | 15.161  | 27.495  | -37.675 | 71.200  |
| 33                                                                                                                   | -26.396 | 117.314 | -7.871  | -56.666 | 61.183 | 49.456 | 4.216   | 31.789  | -34.890 | 75.493  |
| 34                                                                                                                   | -24.537 | 118.431 | -0.570  | -59.943 | 56.741 | 48.216 | 1.936   | 33.688  | -26.688 | 79.981  |
| 35                                                                                                                   | -27.252 | 120.584 | 3.243   | -61.613 | 46.766 | 52.143 | -16.911 | 36.305  | -27.820 | 85.390  |
| 36                                                                                                                   | 14.392  | 132.065 | -4.502  | -56.301 | 46.500 | 49.225 | -14.079 | 15.889  | -25.279 | 93.300  |
| 37                                                                                                                   | 12.325  | 130.210 | -7.053  | -53.805 | 55.642 | 50.558 | 6.037   | 20.182  | -27.599 | 72.420  |
| 38                                                                                                                   | 23.741  | 135.516 | -3.833  | -50.194 | 68.645 | 51.835 | 7.178   | 1.319   | -34.304 | 81.505  |
| 39                                                                                                                   | 26.481  | 137.461 | -2.827  | -47.963 | 62.931 | 49.998 | 5.399   | 0.665   | -30.416 | 83.450  |
| 40                                                                                                                   | 17.771  | 139.331 | -1.988  | -45.482 | 70.144 | 31.703 | 16.712  | 1.430   | -29.658 | 88.507  |
| 41                                                                                                                   | 25.776  | 137.378 | 6.771   | -41.982 | 72.983 | 35.862 | 26.087  | -3.964  | -29.756 | 91.462  |
| 42                                                                                                                   | 14.360  | 133.519 | 12.230  | -41.474 | 77.593 | 34.319 | 29.284  | -3.147  | -31.193 | 95.866  |
| 43                                                                                                                   | 14.641  | 146.485 | 13.107  | -36.964 | 78.244 | 33.520 | 23.091  | -2.205  | -34.909 | 107.346 |
| 44                                                                                                                   | 17.992  | 149.152 | 9.270   | -33.793 | 78.647 | 40.112 | 19.473  | 5.657   | -38.379 | 108.720 |
| 45                                                                                                                   | 20.150  | 150.482 | 11.325  | -36.031 | 43.172 | 38.211 | 21.216  | 4.680   | -48.756 | 104.666 |
| 46                                                                                                                   | 19.997  | 153.839 | 17.910  | -24.736 | 35.076 | 37.635 | 29.400  | 8.647   | -29.674 | 109.402 |
| 47                                                                                                                   | 17.581  | 149.901 | 17.980  | -29.499 | 37.628 | 28.053 | 32.288  | 11.334  | -32.413 | 112.281 |
| 48                                                                                                                   | 19.963  | 151.806 | 5.825   | -23.271 | 42.995 | 33.174 | 34.882  | 7.808   | -33.617 | 118.941 |
| 49                                                                                                                   | 28.158  | 158.335 | 6.069   | -20.683 | 43.147 | 37.770 | 37.098  | 19.892  | -29.390 | 131.809 |
| 50                                                                                                                   | 51.266  | 155.772 | 16.305  | -18.369 | 53.453 | 38.072 | 41.509  | 20.400  | -34.539 | 131.939 |
| 51                                                                                                                   | 48.137  | 166.207 | 24.933  | -11.711 | 54.305 | 39.600 | 46.003  | 26.190  | -34.188 | 131.340 |
| 52                                                                                                                   | 47.786  | 163.120 | 31.480  | -9.976  | 59.065 | 44.411 | 56.122  | 27.896  | -44.696 | 135.163 |
| 53                                                                                                                   | 44.346  | 169.131 | 24.643  | -8.580  | 61.013 | 48.275 | 56.029  | 21.160  | -46.239 | 135.673 |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 51.257     | 180.154    | 24.083     | -11.243    | 63.790     | 51.623     | 56.475     | 6.926      | -45.140    | 171.026    |
| 55     | 50.488     | 168.473    | 15.758     | -7.958     | 55.387     | 52.363     | 49.297     | 2.332      | -36.522    | 172.020    |
| 56     | 56.929     | 167.981    | 4.571      | -4.510     | 50.819     | 50.800     | 61.162     | 13.834     | -42.244    | 171.398    |
| 57     | 64.357     | 186.723    | 2.783      | -0.380     | 49.152     | 62.166     | 63.705     | 13.037     | -52.309    | 175.270    |
| 58     | 68.851     | 189.539    | 2.225      | 0.484      | 51.362     | 60.974     | 60.724     | 22.619     | -37.209    | 209.942    |
| 59     | 67.640     | 197.396    | 2.358      | 3.749      | 50.950     | 57.950     | 72.394     | 20.100     | -29.772    | 210.978    |
| 60     | 71.179     | 202.065    | -6.187     | 22.345     | 57.554     | 73.593     | 76.620     | 20.836     | -28.500    | 208.267    |
| 61     | 69.129     | 199.631    | -7.570     | 32.329     | 58.973     | 76.354     | 80.356     | 17.144     | -26.722    | 206.856    |
| 62     | 73.924     | 212.353    | -12.686    | 32.746     | 70.508     | 80.319     | 89.022     | 18.541     | -22.139    | 209.479    |
| 63     | 74.031     | 214.047    | -13.479    | 53.569     | 74.183     | 84.182     | 86.387     | 19.512     | -18.537    | 201.179    |
| 64     | 78.351     | 227.971    | -36.293    | 57.333     | 85.024     | 85.197     | 84.311     | 11.353     | -13.552    | 197.542    |
| 65     | 63.280     | 207.204    | -37.625    | 66.939     | 89.818     | 92.162     | 78.448     | 13.104     | -18.701    | 203.785    |
| 66     | 55.454     | 209.479    | -39.848    | 69.432     | 88.366     | 100.620    | 93.007     | 7.660      | 4.665      | 198.050    |
| 67     | 63.179     | 211.845    | -47.813    | 86.405     | 74.798     | 112.646    | 93.496     | 5.498      | -2.081     | 201.470    |
| 68     | 62.419     | 206.815    | -47.061    | 89.541     | 67.081     | 103.082    | 104.820    | -4.140     | 2.871      | 201.612    |
| 69     | 59.563     | 207.074    | -46.357    | 95.659     | 79.312     | 101.856    | 104.812    | -0.892     | 5.063      | 204.433    |
| 70     | 69.227     | 209.207    | -43.802    | 88.713     | 72.286     | 105.800    | 95.379     | -4.163     | 2.955      | 203.246    |
| 71     | 72.161     | 215.941    | -40.527    | 88.647     | 69.265     | 105.164    | 82.806     | -3.576     | 10.356     | 203.761    |
| 72     | 67.933     | 213.348    | -41.034    | 88.506     | 64.918     | 106.523    | 81.743     | -3.641     | 12.445     | 208.351    |
| 73     | 66.809     | 203.637    | -41.610    | 85.261     | 66.730     | 106.610    | 85.422     | -3.556     | 13.569     | 222.441    |
| 74     | 68.696     | 206.631    | -39.463    | 105.457    | 66.839     | 107.444    | 90.501     | 5.378      | 13.860     | 239.888    |
| 75     | 72.370     | 207.637    | -42.790    | 107.046    | 64.466     | 93.764     | 92.492     | 8.358      | 28.307     | 236.700    |
| 76     | 82.301     | 209.829    | -42.958    | 109.541    | 67.250     | 99.396     | 92.725     | 16.266     | 29.127     | 238.771    |
| 77     | 80.848     | 213.964    | -40.580    | 109.874    | 70.077     | 103.580    | 87.828     | 15.848     | 36.967     | 232.238    |
| 78     | 83.627     | 211.363    | -37.272    | 100.897    | 70.939     | 91.124     | 93.516     | 24.470     | 36.703     | 231.992    |
| 79     | 88.000     | 203.728    | -38.046    | 105.350    | 71.976     | 97.594     | 106.510    | 16.815     | 37.212     | 229.862    |
| 80     | 91.805     | 207.284    | -51.735    | 106.739    | 63.611     | 98.475     | 108.825    | 15.304     | 37.006     | 233.948    |
| 81     | 93.261     | 221.184    | -45.690    | 98.523     | 67.425     | 101.941    | 127.778    | 16.927     | 36.643     | 234.089    |
| 82     | 98.499     | 223.087    | -37.198    | 96.907     | 67.317     | 107.396    | 119.145    | 23.270     | 39.497     | 228.950    |
| 83     | 99.596     | 220.431    | -45.668    | 101.026    | 78.139     | 107.120    | 125.352    | 36.519     | 40.559     | 225.119    |
| 84     | 101.914    | 216.916    | -47.976    | 95.123     | 73.100     | 110.243    | 113.727    | 38.565     | 43.788     | 227.762    |
| 85     | 105.775    | 214.954    | -49.948    | 91.148     | 73.813     | 112.439    | 103.813    | 36.857     | 48.865     | 247.682    |
| 86     | 103.634    | 220.791    | -50.344    | 81.969     | 88.100     | 108.071    | 108.849    | 44.861     | 50.552     | 258.730    |
| 87     | 108.708    | 220.622    | -40.009    | 83.821     | 89.988     | 103.069    | 109.895    | 52.309     | 50.940     | 259.353    |
| 88     | 108.379    | 227.398    | -39.295    | 77.520     | 92.333     | 109.220    | 111.655    | 56.012     | 42.775     | 260.639    |
| 89     | 114.904    | 228.996    | -35.942    | 73.863     | 82.118     | 106.220    | 114.896    | 55.764     | 41.548     | 261.018    |
| 90     | 116.180    | 229.421    | -23.538    | 76.372     | 74.173     | 115.394    | 118.141    | 38.240     | 42.454     | 264.736    |
| 91     | 118.153    | 230.466    | -27.232    | 76.002     | 79.215     | 108.608    | 110.186    | 38.487     | 49.969     | 257.902    |
| 92     | 119.039    | 235.777    | -30.267    | 70.460     | 86.902     | 113.440    | 105.957    | 38.809     | 58.725     | 266.554    |
| 93     | 119.201    | 235.769    | -27.117    | 73.845     | 97.204     | 120.173    | 115.829    | 41.092     | 58.656     | 271.135    |
| 94     | 121.816    | 232.662    | -31.338    | 75.961     | 99.146     | 117.225    | 118.167    | 48.135     | 43.736     | 268.057    |
| 95     | 121.712    | 234.350    | -23.846    | 77.139     | 103.510    | 121.990    | 123.628    | 38.143     | 48.496     | 262.704    |
| 96     | 121.571    | 238.077    | -32.724    | 75.894     | 102.012    | 129.566    | 130.652    | 31.101     | 49.074     | 267.632    |
| 97     | 128.378    | 239.370    | -36.198    | 82.585     | 101.941    | 137.091    | 126.843    | 30.352     | 47.795     | 257.470    |
| 98     | 133.334    | 236.835    | -37.723    | 83.922     | 103.281    | 145.960    | 123.666    | 22.665     | 40.926     | 264.745    |
| 99     | 130.903    | 217.287    | -41.423    | 85.251     | 107.484    | 147.249    | 126.108    | 27.070     | 43.190     | 276.210    |
| 100    | 129.637    | 220.362    | -39.073    | 86.322     | 110.712    | 148.048    | 123.686    | 26.132     | 35.361     | 282.736    |
| 101    | 127.166    | 222.365    | -39.054    | 82.172     | 110.104    | 148.311    | 130.858    | 19.088     | 37.962     | 293.864    |
| 128    | 193.840    | 229.290    | -8.677     | 123.794    | 203.865    | 197.906    | 151.249    | 54.095     | 83.302     | 290.954    |
| 256    | 322.212    | 419.857    | 69.561     | 247.722    | 297.509    | 303.911    | 351.342    | 290.650    | 120.671    | 475.433    |
| 512    | 545.765    | 704.003    | 312.328    | 282.409    | 494.922    | 530.836    | 600.230    | 400.324    | 372.851    | 834.825    |
| 1024   | 1127.057   | 1513.110   | 975.074    | 775.476    | 1114.751   | 1070.489   | 1218.907   | 861.325    | 866.537    | 1666.760   |
| 2048   | 2195.506   | 2818.957   | 1940.457   | 1993.111   | 2102.049   | 1901.099   | 2203.022   | 1895.835   | 2146.635   | 2511.488   |
| 4096   | 4489.222   | 4746.404   | 3743.836   | 4542.354   | 4363.750   | 3573.308   | 3727.341   | 3873.146   | 3869.971   | 4421.952   |
| 8192   | 9106.794   | 8804.338   | 7386.036   | 8678.008   | 8482.795   | 7220.196   | 7796.377   | 8206.389   | 7519.409   | 8361.615   |
| 16384  | 17477.930  | 17316.264  | 15283.297  | 15517.557  | 17890.199  | 16458.469  | 16534.629  | 16140.251  | 14599.074  | 16534.238  |
| 32768  | 31441.199  | 33241.598  | 32241.998  | 33687.750  | 35145.559  | 34220.578  | 33327.445  | 32639.523  | 30734.162  | 31511.045  |
| 65536  | 64274.586  | 66446.430  | 64447.723  | 68310.883  | 68774.492  | 65566.789  | 64390.488  | 66198.492  | 63440.961  | 64040.891  |
| 131072 | 131565.703 | 130434.742 | 129549.539 | 134671.500 | 135563.859 | 131314.969 | 130506.344 | 129474.852 | 129596.898 | 127491.484 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 261525.703    | 261007.109    | 262010.922    | 261122.016    | 268369.969    | 262871.844    | 265890.531    | 262247.594    | 258295.547    | 258954.031    |
| 524288    | 527115.625    | 528474.688    | 526337.500    | 520909.594    | 528346.625    | 529434.062    | 521696.812    | 527243.188    | 520897.594    | 523584.656    |
| 1048576   | 1050445.250   | 1043080.380   | 1055965.500   | 1050447.000   | 1056674.380   | 1057736.750   | 1046572.120   | 1052185.500   | 1046490.380   | 1045881.560   |
| 2097152   | 2106141.250   | 2094070.380   | 2101424.500   | 2101170.750   | 2121620.500   | 2098561.000   | 2095256.250   | 2098234.250   | 2098410.000   | 2092400.500   |
| 4194304   | 4200253.500   | 4188050.250   | 4196845.000   | 4200524.500   | 4224374.000   | 4185451.000   | 4176040.500   | 4185424.500   | 4196359.000   | 4178488.750   |
| 8388608   | 8392437.000   | 8420465.000   | 8387188.500   | 8395932.000   | 8422808.000   | 8398284.000   | 8370845.000   | 8399515.000   | 8384660.000   | 8386879.000   |
| 16777216  | 16755634.000  | 16806142.000  | 16761597.000  | 16774242.000  | 16823466.000  | 16804794.000  | 16764999.000  | 16762966.000  | 16756667.000  | 16717109.000  |
| 33554432  | 33511680.000  | 33542006.000  | 33603448.000  | 33520876.000  | 33592344.000  | 33561608.000  | 33529490.000  | 33544200.000  | 33589852.000  | 33520772.000  |
| 67108864  | 67114864.000  | 67071920.000  | 67171768.000  | 67108260.000  | 67152312.000  | 67099016.000  | 67136160.000  | 67087808.000  | 67134840.000  | 67092488.000  |
| 134217728 | 134183864.000 | 134256304.000 | 134251824.000 | 134174216.000 | 134243392.000 | 134200384.000 | 134321888.000 | 134214800.000 | 134164984.000 | 134198624.000 |
| 268435456 | 268483040.000 | 268476320.000 | 268574144.000 | 268315888.000 | 268426576.000 | 268453536.000 | 268535072.000 | 268438080.000 | 268453824.000 | 268379824.000 |

# Laplace B= 6

| < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = > |         |        |         |        |         |        |        |         |         |         |
|--------------------------------------------------------------------------------------------------------------------|---------|--------|---------|--------|---------|--------|--------|---------|---------|---------|
| True Count                                                                                                         | Simu 1  | Simu 2 | Simu 3  | Simu 4 | Simu 5  | Simu 6 | Simu 7 | Simu 8  | Simu 9  | Simu 10 |
| 1                                                                                                                  | -1.044  | 3.339  | 0.942   | 7.321  | 2.671   | 8.288  | 0.812  | 0.870   | 7.632   | 0.864   |
| 2                                                                                                                  | -5.693  | -5.489 | -0.855  | 7.531  | -8.583  | 14.408 | -3.729 | 11.132  | 8.193   | 1.947   |
| 3                                                                                                                  | -4.636  | -5.486 | -14.399 | -2.031 | -11.340 | 12.483 | 8.567  | 18.844  | 13.699  | 1.969   |
| 4                                                                                                                  | -4.027  | -4.124 | -13.823 | 0.649  | -12.627 | 29.981 | 16.605 | 17.111  | 18.332  | 1.911   |
| 5                                                                                                                  | -1.716  | 1.047  | -8.354  | -7.820 | -16.006 | 33.032 | 22.621 | 9.805   | 11.671  | -0.262  |
| 6                                                                                                                  | 0.019   | -6.480 | -2.424  | -5.019 | -10.526 | 30.424 | 19.613 | 16.419  | -10.714 | 17.436  |
| 7                                                                                                                  | -19.701 | 1.523  | 0.457   | -2.602 | 8.435   | 46.983 | 25.731 | 19.852  | -3.566  | 18.031  |
| 8                                                                                                                  | -26.054 | -1.534 | 7.933   | 1.832  | 13.878  | 53.627 | 29.624 | 17.040  | -4.384  | 26.184  |
| 9                                                                                                                  | -25.285 | 10.599 | 13.563  | 26.979 | 15.606  | 53.801 | 31.900 | -8.672  | -1.499  | 26.570  |
| 10                                                                                                                 | -22.078 | 11.931 | 15.484  | 26.341 | 17.221  | 57.284 | 30.523 | -15.159 | 2.263   | 28.242  |
| 11                                                                                                                 | -21.011 | 11.998 | 25.063  | 28.404 | 14.043  | 59.673 | 29.589 | -18.448 | 20.003  | 25.201  |
| 12                                                                                                                 | -7.501  | 18.149 | 20.883  | 30.036 | 7.785   | 58.569 | 30.620 | -4.265  | 2.074   | 14.977  |
| 13                                                                                                                 | -8.485  | 24.327 | 19.284  | 30.178 | 9.910   | 55.389 | 40.877 | 18.256  | 33.855  | 14.555  |
| 14                                                                                                                 | 0.052   | 40.322 | 25.403  | 30.350 | 44.876  | 57.280 | 37.510 | 10.140  | 31.081  | 21.259  |
| 15                                                                                                                 | 3.833   | 42.946 | 24.997  | 26.827 | 43.847  | 77.009 | 35.802 | 12.427  | 15.430  | 29.134  |
| 16                                                                                                                 | 5.621   | 51.929 | 12.201  | 41.920 | 43.770  | 74.756 | 35.679 | 15.288  | 21.651  | 33.833  |
| 17                                                                                                                 | 20.181  | 48.528 | 12.247  | 42.622 | 42.745  | 60.320 | 36.542 | 18.912  | 23.586  | 27.307  |
| 18                                                                                                                 | 50.822  | 46.995 | 14.727  | 42.783 | 42.372  | 51.170 | 28.543 | 6.091   | 24.598  | 15.411  |
| 19                                                                                                                 | 54.757  | 34.743 | 20.086  | 44.053 | 31.136  | 42.872 | 27.639 | 7.823   | 24.336  | 18.152  |
| 20                                                                                                                 | 52.451  | 30.710 | 15.887  | 46.610 | 36.850  | 26.433 | 32.200 | 3.479   | 31.312  | 28.683  |
| 21                                                                                                                 | 85.109  | 32.228 | 22.254  | 42.921 | 34.981  | 27.525 | 29.944 | -3.714  | 32.159  | 36.478  |
| 22                                                                                                                 | 80.080  | 28.555 | 20.287  | 43.959 | 46.811  | 30.540 | 35.642 | -4.082  | 34.745  | 37.715  |
| 23                                                                                                                 | 83.093  | 33.434 | 18.106  | 45.329 | 50.192  | 42.138 | 36.653 | -1.080  | 36.456  | 38.239  |
| 24                                                                                                                 | 97.032  | 35.310 | 0.978   | 39.308 | 56.812  | 49.097 | 21.002 | -3.207  | 36.900  | 37.123  |
| 25                                                                                                                 | 107.271 | 31.940 | -8.930  | 38.678 | 48.718  | 45.596 | 25.672 | -1.489  | 40.728  | 27.968  |
| 26                                                                                                                 | 107.854 | 33.666 | -2.479  | 44.725 | 40.560  | 44.708 | 19.332 | -14.450 | 44.110  | 30.098  |
| 27                                                                                                                 | 105.637 | 28.980 | 2.292   | 47.527 | 42.926  | 43.873 | 22.436 | -20.305 | 46.784  | 35.339  |
| 28                                                                                                                 | 106.277 | 31.927 | 5.658   | 57.495 | 46.186  | 42.082 | 18.024 | -16.863 | 34.057  | 39.350  |
| 29                                                                                                                 | 107.312 | 27.442 | -4.915  | 59.660 | 42.153  | 42.105 | 21.762 | -16.363 | 30.239  | 39.636  |
| 30                                                                                                                 | 107.420 | 27.616 | 9.160   | 46.610 | 50.115  | 42.100 | 31.355 | -18.228 | 36.897  | 40.132  |
| 31                                                                                                                 | 116.982 | 31.117 | 14.890  | 46.352 | 56.246  | 35.349 | 34.924 | -15.639 | 31.861  | 42.357  |
| 32                                                                                                                 | 117.351 | 30.802 | 9.930   | 49.400 | 58.949  | 52.454 | 36.109 | -23.433 | 34.356  | 50.322  |
| 33                                                                                                                 | 117.969 | 43.940 | 1.057   | 61.835 | 58.462  | 52.939 | 27.477 | -25.836 | 53.839  | 44.083  |
| 34                                                                                                                 | 104.319 | 49.888 | 7.304   | 65.314 | 34.571  | 52.618 | 27.747 | -21.217 | 61.907  | 43.673  |
| 35                                                                                                                 | 103.668 | 52.896 | 14.556  | 68.331 | 41.643  | 41.732 | 19.857 | -17.707 | 62.403  | 39.134  |
| 36                                                                                                                 | 117.498 | 43.949 | 18.494  | 58.321 | 43.947  | 43.936 | 19.567 | -18.376 | 71.061  | 34.415  |
| 37                                                                                                                 | 122.139 | 32.546 | 18.117  | 53.788 | 57.288  | 33.787 | 10.492 | -17.999 | 73.692  | 23.358  |
| 38                                                                                                                 | 139.963 | 36.618 | 8.131   | 49.371 | 51.523  | 21.141 | 27.458 | 12.830  | 70.278  | 29.506  |
| 39                                                                                                                 | 140.393 | 46.012 | 3.500   | 52.188 | 51.188  | 25.695 | 34.549 | 23.803  | 65.815  | 41.937  |
| 40                                                                                                                 | 152.043 | 40.541 | 10.159  | 55.586 | 53.409  | 25.804 | 17.674 | 19.849  | 74.262  | 47.826  |
| 41                                                                                                                 | 151.985 | 25.133 | 13.464  | 52.868 | 60.878  | 23.951 | 21.360 | 30.980  | 90.576  | 54.617  |
| 42                                                                                                                 | 148.904 | 28.019 | 21.088  | 53.170 | 49.290  | 21.399 | 25.125 | 40.505  | 90.999  | 25.090  |
| 43                                                                                                                 | 139.350 | 15.913 | 25.367  | 58.766 | 63.661  | 38.369 | 26.666 | 40.150  | 87.870  | 32.185  |
| 44                                                                                                                 | 113.326 | 29.506 | 20.877  | 51.866 | 53.936  | 37.924 | 26.413 | 40.723  | 99.607  | 23.645  |
| 45                                                                                                                 | 113.773 | 28.399 | 33.619  | 55.128 | 25.534  | 38.132 | 26.495 | 41.027  | 115.120 | 23.719  |
| 46                                                                                                                 | 117.334 | 30.046 | 33.213  | 53.075 | 24.566  | 41.588 | 24.774 | 40.735  | 96.191  | 20.706  |
| 47                                                                                                                 | 116.327 | 30.158 | 29.333  | 67.643 | 31.991  | 31.788 | 37.461 | 42.861  | 93.536  | 16.401  |
| 48                                                                                                                 | 119.347 | 52.638 | 27.363  | 67.917 | 28.693  | 33.453 | 33.290 | 31.561  | 109.074 | 21.072  |
| 49                                                                                                                 | 128.090 | 53.592 | 16.478  | 69.543 | 39.771  | 25.330 | 26.015 | 43.968  | 109.782 | 26.173  |
| 50                                                                                                                 | 125.391 | 57.212 | 15.638  | 82.964 | 59.365  | 15.580 | 34.172 | 52.877  | 114.494 | 11.293  |
| 51                                                                                                                 | 117.121 | 53.030 | 20.762  | 83.178 | 105.201 | 9.383  | 36.666 | 44.043  | 113.001 | -5.041  |
| 52                                                                                                                 | 120.845 | 53.312 | 16.681  | 81.837 | 99.349  | -8.485 | 33.926 | 40.711  | 110.728 | 0.178   |
| 53                                                                                                                 | 123.647 | 48.413 | 17.289  | 95.809 | 89.203  | -9.733 | 29.680 | 34.119  | 113.220 | -9.504  |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 123.857    | 43.441     | 27.266     | 98.808     | 90.697     | -6.142     | 23.164     | 19.311     | 113.562    | -8.834     |
| 55     | 116.863    | 42.958     | 39.290     | 112.548    | 94.167     | -7.731     | 15.940     | 17.129     | 100.131    | -6.517     |
| 56     | 116.818    | 27.039     | 44.626     | 112.865    | 107.927    | -17.468    | 20.406     | 21.031     | 108.130    | -24.597    |
| 57     | 111.460    | 21.060     | 36.698     | 91.522     | 115.140    | -16.311    | 7.824      | 20.819     | 109.782    | -24.238    |
| 58     | 115.277    | 32.203     | 34.644     | 92.014     | 134.869    | -15.942    | 8.447      | 23.626     | 111.092    | -19.104    |
| 59     | 114.835    | 32.465     | 28.756     | 89.120     | 135.485    | -14.939    | -2.009     | 34.855     | 115.660    | -22.563    |
| 60     | 115.177    | 30.477     | 22.418     | 87.477     | 130.070    | -29.053    | -4.673     | 30.623     | 111.063    | -20.542    |
| 61     | 117.471    | 32.648     | 18.106     | 99.355     | 125.386    | -28.035    | -6.543     | 21.195     | 109.083    | -20.479    |
| 62     | 119.107    | 34.811     | 23.128     | 91.404     | 131.493    | -19.389    | -6.488     | 23.258     | 108.981    | -37.316    |
| 63     | 110.989    | 40.736     | 24.253     | 92.639     | 114.606    | -22.606    | -6.758     | 27.636     | 108.613    | -33.785    |
| 64     | 102.065    | 50.277     | 42.169     | 88.469     | 114.926    | -21.365    | -9.356     | 29.332     | 104.242    | -44.873    |
| 65     | 109.326    | 48.384     | 41.998     | 79.842     | 113.698    | -29.268    | -10.088    | 20.518     | 101.095    | -38.298    |
| 66     | 107.881    | 46.984     | 40.321     | 89.455     | 116.217    | -37.563    | 5.769      | 25.943     | 92.928     | -36.037    |
| 67     | 118.945    | 40.777     | 37.843     | 69.045     | 105.539    | -43.011    | -9.976     | 25.139     | 104.076    | -36.965    |
| 68     | 115.653    | 40.285     | 35.732     | 67.212     | 111.355    | -58.185    | -9.893     | 23.186     | 79.675     | -27.523    |
| 69     | 112.884    | 39.632     | 35.078     | 72.028     | 123.029    | -58.687    | -7.168     | 13.994     | 76.695     | -25.303    |
| 70     | 110.591    | 49.644     | 35.315     | 57.484     | 128.794    | -53.679    | -21.311    | 19.326     | 100.298    | -17.905    |
| 71     | 104.224    | 39.532     | 37.554     | 68.739     | 125.539    | -46.499    | -12.893    | 21.155     | 94.809     | -7.899     |
| 72     | 96.164     | 45.774     | 38.732     | 61.388     | 126.090    | -47.186    | -8.658     | 19.103     | 128.664    | -4.862     |
| 73     | 85.049     | 39.429     | 41.053     | 60.905     | 126.981    | -38.155    | -7.743     | 17.647     | 127.606    | -3.490     |
| 74     | 86.032     | 54.940     | 43.806     | 52.596     | 149.871    | -29.363    | -9.247     | 37.458     | 127.325    | -7.986     |
| 75     | 84.001     | 51.396     | 49.099     | 54.695     | 150.073    | -44.084    | -17.999    | 36.189     | 128.174    | -11.093    |
| 76     | 76.683     | 44.943     | 83.363     | 38.760     | 152.165    | -75.697    | -15.186    | 43.049     | 138.247    | -15.345    |
| 77     | 62.366     | 53.829     | 87.431     | 16.844     | 149.401    | -62.273    | -14.312    | 42.614     | 130.577    | -22.380    |
| 78     | 55.377     | 51.986     | 87.769     | 19.735     | 166.764    | -60.800    | -14.070    | 48.256     | 133.188    | -32.405    |
| 79     | 60.044     | 41.535     | 93.166     | -8.011     | 150.057    | -74.322    | -16.596    | 62.503     | 130.374    | -31.959    |
| 80     | 58.919     | 39.520     | 83.122     | -6.700     | 150.860    | -67.857    | -18.383    | 71.751     | 128.707    | -30.970    |
| 81     | 57.434     | 50.743     | 79.240     | -10.182    | 163.141    | -70.998    | -23.290    | 75.828     | 134.134    | -32.347    |
| 82     | 74.830     | 52.095     | 79.709     | -11.345    | 169.496    | -71.472    | -18.591    | 75.577     | 112.912    | -38.854    |
| 83     | 74.812     | 50.712     | 81.023     | -7.095     | 171.919    | -58.353    | -18.751    | 80.973     | 116.881    | -25.404    |
| 84     | 86.118     | 74.324     | 86.672     | -4.795     | 178.905    | -52.744    | -12.302    | 77.823     | 117.482    | -19.070    |
| 85     | 85.585     | 68.812     | 86.880     | -1.413     | 177.126    | -44.133    | -6.726     | 78.891     | 119.041    | -20.170    |
| 86     | 99.682     | 61.000     | 98.953     | -0.977     | 183.970    | -53.911    | -7.628     | 84.015     | 117.546    | -24.610    |
| 87     | 98.044     | 78.018     | 99.191     | 16.133     | 189.391    | -67.560    | -22.918    | 98.620     | 93.426     | -24.515    |
| 88     | 102.151    | 79.458     | 100.480    | 17.258     | 188.065    | -59.155    | -12.296    | 96.904     | 108.725    | -21.361    |
| 89     | 97.955     | 82.021     | 96.692     | -4.926     | 201.741    | -38.533    | -20.739    | 94.342     | 109.320    | -18.289    |
| 90     | 93.600     | 83.271     | 102.610    | -2.928     | 202.798    | -44.450    | -27.831    | 73.989     | 109.055    | -7.886     |
| 91     | 94.313     | 88.876     | 103.682    | -3.127     | 198.217    | -42.288    | -29.883    | 61.601     | 110.905    | -6.168     |
| 92     | 90.706     | 81.062     | 112.610    | 4.358      | 197.077    | -36.644    | -29.757    | 65.322     | 119.686    | -7.865     |
| 93     | 108.522    | 71.603     | 97.173     | 1.724      | 194.555    | -35.445    | -29.301    | 67.196     | 117.979    | -13.084    |
| 94     | 109.711    | 81.453     | 102.081    | -3.737     | 191.911    | -42.114    | -20.457    | 68.729     | 115.200    | -20.167    |
| 95     | 117.794    | 83.549     | 111.560    | 11.052     | 172.476    | -44.229    | -42.227    | 68.028     | 117.726    | -6.732     |
| 96     | 121.382    | 85.511     | 84.056     | 17.845     | 180.080    | -32.211    | -30.719    | 71.275     | 144.301    | -1.144     |
| 97     | 133.155    | 82.759     | 95.067     | 24.356     | 192.099    | -35.762    | -26.436    | 69.573     | 127.767    | 5.477      |
| 98     | 124.154    | 84.936     | 96.376     | 25.309     | 183.202    | -23.874    | -24.705    | 72.007     | 131.063    | 3.595      |
| 99     | 129.998    | 124.421    | 103.637    | 43.168     | 177.209    | -32.490    | -23.422    | 65.437     | 134.652    | 11.530     |
| 100    | 128.648    | 110.858    | 105.701    | 40.959     | 178.491    | -29.920    | -11.926    | 70.857     | 135.671    | 12.281     |
| 101    | 122.040    | 109.864    | 97.178     | 48.811     | 164.600    | -35.213    | -7.672     | 62.929     | 144.089    | 11.996     |
| 128    | 152.623    | 170.142    | 102.683    | 136.768    | 189.995    | 13.580     | -21.701    | 128.285    | 263.403    | 23.316     |
| 256    | 116.042    | 349.224    | 217.827    | 137.524    | 415.705    | 219.349    | -102.403   | 334.916    | 342.818    | -16.507    |
| 512    | 488.192    | 445.380    | 462.776    | 470.082    | 960.336    | 571.497    | 103.480    | 575.735    | 536.487    | 195.162    |
| 1024   | 1098.117   | 1006.626   | 786.734    | 1065.988   | 1330.826   | 723.799    | 607.042    | 708.151    | 1054.692   | 1137.161   |
| 2048   | 1833.846   | 1835.992   | 1841.758   | 1713.162   | 2136.476   | 2078.002   | 1334.408   | 1844.222   | 1951.378   | 1708.263   |
| 4096   | 4551.547   | 3428.180   | 4302.398   | 4278.005   | 4120.187   | 3791.083   | 3179.552   | 3702.474   | 3869.042   | 3311.865   |
| 8192   | 8871.844   | 7451.657   | 8237.554   | 8413.449   | 8151.645   | 8231.786   | 7318.471   | 7194.824   | 7962.653   | 7714.584   |
| 16384  | 17866.652  | 14559.165  | 16413.340  | 17068.926  | 15369.276  | 15876.928  | 16877.916  | 14847.581  | 16199.604  | 16245.158  |
| 32768  | 35648.598  | 30395.857  | 31853.326  | 34569.258  | 32360.455  | 30844.379  | 34276.664  | 31368.670  | 33558.730  | 33633.508  |
| 65536  | 68392.703  | 61474.617  | 61420.480  | 67391.016  | 63129.934  | 63422.723  | 63624.895  | 64411.949  | 66956.172  | 66776.797  |
| 131072 | 133935.438 | 128412.969 | 126264.594 | 132262.781 | 129803.078 | 128873.969 | 129784.016 | 130902.227 | 134742.938 | 134626.516 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 267401.531    | 260545.266    | 249729.750    | 257631.234    | 255978.031    | 261542.266    | 262861.062    | 261334.312    | 263513.219    | 266559.719    |
| 524288    | 531293.750    | 529908.438    | 510750.156    | 515384.094    | 518581.562    | 520605.125    | 526451.125    | 530303.125    | 529845.750    | 524337.813    |
| 1048576   | 1054966.000   | 1061210.630   | 1032811.060   | 1034188.620   | 1041379.560   | 1027206.060   | 1050793.000   | 1057518.380   | 1056653.250   | 1048954.250   |
| 2097152   | 2103392.500   | 2100608.000   | 2089088.250   | 2078842.250   | 2090312.000   | 2081165.500   | 2094985.120   | 2111173.000   | 2104092.250   | 2101258.500   |
| 4194304   | 4208375.500   | 4193166.250   | 4160972.500   | 4175605.250   | 4185507.750   | 4183187.500   | 4188784.500   | 4227705.000   | 4195691.000   | 4182411.000   |
| 8388608   | 8391999.000   | 8403472.000   | 8333799.000   | 8358842.000   | 8421728.000   | 8387320.500   | 8397774.000   | 8443703.000   | 8404290.000   | 8366914.000   |
| 16777216  | 16789174.000  | 16779612.000  | 16744546.000  | 16752394.000  | 16815198.000  | 16792658.000  | 16820454.000  | 16810092.000  | 16805504.000  | 16771340.000  |
| 33554432  | 33497942.000  | 33598648.000  | 33534274.000  | 33498246.000  | 33575952.000  | 33568456.000  | 33614276.000  | 33594276.000  | 33548112.000  | 33588264.000  |
| 67108864  | 67098112.000  | 67112304.000  | 67104164.000  | 67097448.000  | 67090144.000  | 67140312.000  | 67123296.000  | 67157232.000  | 67133104.000  | 67087348.000  |
| 134217728 | 134108528.000 | 134299616.000 | 134186184.000 | 134160944.000 | 134290912.000 | 134177304.000 | 134244880.000 | 134274016.000 | 134328832.000 | 134140696.000 |
| 268435456 | 268290304.000 | 268674592.000 | 268332496.000 | 268448576.000 | 268464448.000 | 268423296.000 | 268535744.000 | 268530560.000 | 268543136.000 | 268327536.000 |

# Laplace B= 7

| < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = > |         |         |         |         |         |        |         |         |        |         |
|--------------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|--------|---------|---------|--------|---------|
| True Count                                                                                                         | Simu 1  | Simu 2  | Simu 3  | Simu 4  | Simu 5  | Simu 6 | Simu 7  | Simu 8  | Simu 9 | Simu 10 |
| 1                                                                                                                  | -5.698  | -4.841  | -13.079 | 4.820   | -9.226  | -3.774 | -11.052 | 2.467   | 5.497  | 0.794   |
| 2                                                                                                                  | -12.006 | -0.871  | -14.708 | 11.619  | -6.990  | -5.571 | -7.783  | -9.012  | 2.078  | 7.473   |
| 3                                                                                                                  | -6.181  | 17.912  | -30.386 | 16.790  | -2.072  | -0.142 | -6.733  | -3.425  | -4.736 | 8.365   |
| 4                                                                                                                  | -21.034 | 7.280   | -34.294 | 26.457  | -5.657  | 7.478  | 2.114   | 1.085   | 0.576  | 5.285   |
| 5                                                                                                                  | -13.514 | 6.177   | -25.135 | 30.879  | -6.456  | 6.789  | -4.015  | -3.703  | 22.804 | 19.198  |
| 6                                                                                                                  | -25.953 | 4.092   | -28.295 | 12.108  | -2.406  | 4.454  | -23.946 | 9.640   | 10.202 | 21.604  |
| 7                                                                                                                  | -27.096 | 0.983   | -40.918 | 32.153  | -8.412  | 20.329 | -23.602 | 26.430  | 13.422 | 27.156  |
| 8                                                                                                                  | -19.956 | -13.679 | -34.561 | 38.832  | 6.203   | 6.838  | -43.477 | 30.110  | 21.119 | 24.937  |
| 9                                                                                                                  | -12.034 | -2.283  | -41.418 | 41.584  | 0.768   | 18.937 | -39.483 | 31.073  | 19.347 | 17.967  |
| 10                                                                                                                 | -8.909  | 5.465   | -40.156 | 40.126  | 13.292  | 25.289 | -37.951 | 38.676  | 12.683 | 13.096  |
| 11                                                                                                                 | -7.903  | 19.611  | -38.444 | 29.394  | 10.181  | 33.447 | -37.861 | 48.261  | 19.486 | 29.307  |
| 12                                                                                                                 | -10.804 | 19.280  | -29.137 | 44.362  | -15.477 | 33.364 | -36.465 | 51.806  | 11.901 | 27.893  |
| 13                                                                                                                 | -1.900  | 14.923  | -32.219 | 44.570  | -20.766 | 11.540 | -37.726 | 56.398  | 12.959 | 23.786  |
| 14                                                                                                                 | -14.068 | 13.446  | -31.775 | 45.606  | -18.760 | 17.353 | -45.566 | 65.334  | 28.277 | 25.129  |
| 15                                                                                                                 | -26.249 | 25.972  | 5.258   | 47.746  | -9.020  | 3.515  | -46.052 | 55.629  | 27.549 | 25.697  |
| 16                                                                                                                 | -26.052 | 28.056  | -8.814  | 53.557  | -8.206  | -5.656 | -45.303 | 55.523  | 34.770 | 25.617  |
| 17                                                                                                                 | -27.228 | 21.275  | -16.075 | 51.040  | -5.987  | 12.141 | -45.947 | 65.997  | 33.270 | 33.071  |
| 18                                                                                                                 | -15.187 | 26.757  | -16.893 | 51.114  | -5.165  | 3.583  | -28.502 | 67.816  | 34.705 | 33.649  |
| 19                                                                                                                 | -22.467 | 29.706  | -14.270 | 59.182  | 19.670  | 11.689 | -44.686 | 66.791  | 36.169 | 29.354  |
| 20                                                                                                                 | -17.896 | 28.763  | -15.599 | 83.645  | 22.137  | 13.249 | -51.753 | 74.092  | 43.536 | 30.458  |
| 21                                                                                                                 | -17.135 | 39.585  | -34.747 | 83.172  | 22.804  | 18.107 | -49.547 | 75.789  | 32.153 | 34.190  |
| 22                                                                                                                 | -11.821 | 47.183  | -33.480 | 102.646 | 18.541  | 17.999 | -46.417 | 91.953  | 32.494 | 30.667  |
| 23                                                                                                                 | -6.532  | 44.742  | -36.920 | 111.026 | 13.350  | 21.031 | -48.923 | 92.313  | 30.027 | 17.590  |
| 24                                                                                                                 | 5.939   | 31.857  | -52.083 | 115.357 | 21.960  | 18.901 | -8.913  | 97.131  | 27.446 | 20.339  |
| 25                                                                                                                 | 10.461  | 23.780  | -41.971 | 124.700 | 7.891   | 19.355 | -27.617 | 102.429 | 28.873 | 19.763  |
| 26                                                                                                                 | 11.618  | 25.597  | -51.620 | 131.054 | -0.923  | 25.798 | -30.132 | 100.171 | 28.273 | 12.254  |
| 27                                                                                                                 | 10.326  | 16.792  | -57.174 | 128.424 | -8.500  | 26.249 | -10.943 | 99.008  | 27.605 | 18.453  |
| 28                                                                                                                 | 15.996  | 3.645   | -33.557 | 136.938 | 9.596   | 30.974 | -11.126 | 99.239  | 19.033 | 26.013  |
| 29                                                                                                                 | 10.945  | 8.947   | -12.856 | 136.389 | 10.463  | 35.743 | -9.807  | 98.708  | 27.002 | 21.623  |
| 30                                                                                                                 | -20.379 | -16.943 | -9.767  | 154.013 | -1.548  | 25.200 | -19.949 | 92.885  | 27.272 | 45.543  |
| 31                                                                                                                 | -17.266 | -42.022 | -18.334 | 148.432 | -1.535  | 11.704 | -22.514 | 91.688  | 27.931 | 55.067  |
| 32                                                                                                                 | -37.006 | -58.265 | -19.333 | 158.817 | -2.709  | 16.555 | -16.716 | 89.559  | 24.629 | 55.232  |
| 33                                                                                                                 | -29.276 | -58.658 | -50.038 | 160.784 | -17.046 | 16.790 | -11.894 | 97.366  | 29.656 | 54.714  |
| 34                                                                                                                 | -49.286 | -65.958 | -50.369 | 160.232 | -12.282 | 31.487 | -8.227  | 98.211  | 6.041  | 63.252  |
| 35                                                                                                                 | -43.879 | -64.807 | -51.318 | 145.892 | -15.817 | 36.405 | -16.501 | 93.957  | 11.686 | 62.163  |
| 36                                                                                                                 | -47.921 | -61.577 | -46.551 | 153.377 | -19.343 | 36.376 | -12.907 | 90.779  | 14.922 | 50.591  |
| 37                                                                                                                 | -54.093 | -69.289 | -53.801 | 157.450 | -25.328 | 28.587 | -34.139 | 87.925  | 14.593 | 60.769  |
| 38                                                                                                                 | -52.242 | -77.795 | -35.395 | 149.562 | -18.940 | 43.996 | -28.632 | 84.501  | 17.425 | 71.716  |
| 39                                                                                                                 | -52.149 | -68.992 | -50.267 | 147.111 | -10.956 | 51.450 | -27.907 | 72.050  | 24.742 | 82.228  |
| 40                                                                                                                 | -48.568 | -83.564 | -42.164 | 154.249 | -2.902  | 57.002 | -28.462 | 75.453  | 22.562 | 78.669  |
| 41                                                                                                                 | -41.083 | -75.863 | -39.155 | 149.530 | -0.926  | 60.039 | -29.512 | 82.020  | 29.929 | 78.363  |
| 42                                                                                                                 | -36.803 | -72.588 | -32.795 | 153.380 | 14.001  | 52.815 | -14.806 | 91.464  | 31.083 | 79.433  |
| 43                                                                                                                 | -37.043 | -77.828 | -34.348 | 155.340 | 16.129  | 42.326 | -5.365  | 93.255  | 45.362 | 83.639  |
| 44                                                                                                                 | -34.060 | -80.199 | -48.520 | 150.337 | 6.977   | 33.127 | -3.573  | 99.751  | 36.122 | 98.268  |
| 45                                                                                                                 | -29.918 | -77.658 | -42.803 | 152.702 | 9.504   | 29.047 | 24.368  | 97.378  | 40.014 | 99.840  |
| 46                                                                                                                 | -26.636 | -69.735 | -56.057 | 153.512 | 3.023   | 24.122 | 29.147  | 103.168 | 39.889 | 108.660 |
| 47                                                                                                                 | -26.888 | -59.120 | -55.527 | 153.281 | 19.818  | 20.835 | 31.856  | 96.947  | 34.460 | 120.325 |
| 48                                                                                                                 | -29.789 | -66.135 | -54.642 | 144.762 | 33.005  | 25.127 | 29.230  | 99.283  | 33.870 | 122.482 |
| 49                                                                                                                 | -45.936 | -69.016 | -48.291 | 145.053 | 30.659  | 22.788 | 29.036  | 102.068 | 43.392 | 112.795 |
| 50                                                                                                                 | -46.111 | -81.638 | -38.199 | 144.367 | 26.899  | 5.820  | 27.376  | 108.141 | 54.353 | 110.242 |
| 51                                                                                                                 | -22.019 | -79.046 | -29.757 | 143.393 | 47.572  | 3.791  | 20.370  | 102.494 | 46.714 | 115.669 |
| 52                                                                                                                 | -18.720 | -69.773 | -32.398 | 141.601 | 45.119  | 5.532  | 20.051  | 98.375  | 45.675 | 108.554 |
| 53                                                                                                                 | -13.244 | -85.650 | -41.136 | 141.762 | 45.700  | 9.560  | 21.425  | 99.249  | 28.910 | 111.855 |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | -12.406    | -87.017    | -34.046    | 153.013    | 51.061     | 9.449      | 7.867      | 104.645    | 30.380     | 113.656    |
| 55     | -12.571    | -91.033    | -37.672    | 157.226    | 56.652     | 12.872     | 10.792     | 115.688    | 33.822     | 105.642    |
| 56     | 6.337      | -89.452    | -42.403    | 166.514    | 53.157     | 10.582     | 19.726     | 119.955    | 38.361     | 110.669    |
| 57     | 6.031      | -73.996    | -46.871    | 162.954    | 4.645      | 10.313     | 20.432     | 112.802    | 38.070     | 106.154    |
| 58     | 6.730      | -64.330    | -40.655    | 170.220    | 6.351      | 13.108     | 22.734     | 98.617     | 41.056     | 117.017    |
| 59     | 7.365      | -52.861    | -37.343    | 170.505    | -10.481    | 4.256      | 22.513     | 102.127    | 42.537     | 123.966    |
| 60     | -26.337    | -38.338    | -35.229    | 167.578    | -10.930    | 1.220      | 18.725     | 105.918    | 52.496     | 118.036    |
| 61     | -21.181    | -41.346    | -59.783    | 166.755    | -0.608     | 15.940     | 1.841      | 109.713    | 49.326     | 116.346    |
| 62     | -19.045    | -37.323    | -93.545    | 170.314    | 4.398      | 13.166     | 2.380      | 108.034    | 16.788     | 118.103    |
| 63     | -17.774    | -36.973    | -82.895    | 201.000    | -14.122    | 7.980      | 7.935      | 117.330    | 22.620     | 121.893    |
| 64     | -12.881    | -32.162    | -81.929    | 214.836    | -5.925     | -7.950     | 7.944      | 126.015    | 11.299     | 104.499    |
| 65     | -11.385    | -15.424    | -85.117    | 215.637    | -4.200     | -7.952     | -1.839     | 127.589    | 15.845     | 106.299    |
| 66     | -20.757    | -21.667    | -96.652    | 215.494    | 3.044      | -0.928     | 40.596     | 105.796    | 16.015     | 116.564    |
| 67     | -18.781    | -7.824     | -98.500    | 216.808    | -2.160     | -10.914    | 55.845     | 105.519    | 12.669     | 111.479    |
| 68     | -22.317    | -1.151     | -101.296   | 209.109    | 2.015      | -14.810    | 49.939     | 114.497    | 14.453     | 115.369    |
| 69     | -9.582     | -5.378     | -100.277   | 202.494    | 6.756      | -12.493    | 46.715     | 110.326    | 31.670     | 126.227    |
| 70     | -21.893    | -3.711     | -98.100    | 199.032    | 11.331     | 10.380     | 41.026     | 110.376    | 39.242     | 125.486    |
| 71     | -33.201    | -7.245     | -82.059    | 197.438    | 15.693     | 4.865      | 29.473     | 112.393    | 49.629     | 120.300    |
| 72     | -10.595    | -3.352     | -82.828    | 220.301    | 12.686     | -2.834     | 29.057     | 126.066    | 50.876     | 105.144    |
| 73     | -2.827     | -3.589     | -88.377    | 210.716    | 4.246      | -7.463     | 27.772     | 127.202    | 54.156     | 110.146    |
| 74     | 1.796      | 6.769      | -85.656    | 211.953    | -1.693     | -12.558    | 21.688     | 131.698    | 52.610     | 115.418    |
| 75     | 4.271      | -11.007    | -80.248    | 211.599    | 5.321      | -10.323    | 22.812     | 128.901    | 56.013     | 112.639    |
| 76     | 2.118      | -10.886    | -88.569    | 217.055    | 7.796      | -24.849    | 23.190     | 121.379    | 56.575     | 118.959    |
| 77     | 7.618      | -32.945    | -78.927    | 221.960    | -5.472     | -25.820    | 14.138     | 127.485    | 62.888     | 121.677    |
| 78     | 25.179     | -33.020    | -57.954    | 225.951    | -2.353     | -10.523    | 18.290     | 146.662    | 73.497     | 122.770    |
| 79     | 22.676     | -21.241    | -61.964    | 228.117    | -12.046    | -24.542    | 21.696     | 135.505    | 76.149     | 122.472    |
| 80     | 20.485     | -22.105    | -55.857    | 225.258    | -4.111     | -30.637    | 17.358     | 143.403    | 82.451     | 137.614    |
| 81     | 15.573     | -10.922    | -53.595    | 222.233    | 12.818     | -28.852    | 3.883      | 143.635    | 86.495     | 142.589    |
| 82     | 18.813     | -26.315    | -49.323    | 214.640    | -8.284     | -16.245    | 3.156      | 131.154    | 88.155     | 142.042    |
| 83     | 19.076     | -22.526    | -51.321    | 207.366    | 1.913      | -22.343    | 11.285     | 132.132    | 103.677    | 151.682    |
| 84     | 39.371     | -36.222    | -62.202    | 206.856    | 0.196      | -26.368    | 11.715     | 130.308    | 98.501     | 151.516    |
| 85     | 47.401     | -33.187    | -41.520    | 204.667    | -7.909     | -14.372    | -1.512     | 120.911    | 99.613     | 156.538    |
| 86     | 27.680     | -36.082    | -34.409    | 207.836    | 4.837      | -9.676     | -10.363    | 117.122    | 93.783     | 136.490    |
| 87     | 38.205     | -34.599    | -17.493    | 206.056    | 18.232     | 2.843      | -9.065     | 142.930    | 95.017     | 134.627    |
| 88     | 47.821     | -15.954    | -22.740    | 206.047    | 19.056     | -2.140     | -8.770     | 127.724    | 104.370    | 139.038    |
| 89     | 51.289     | -16.260    | -28.727    | 220.368    | 21.744     | -7.620     | -4.922     | 152.376    | 95.040     | 120.328    |
| 90     | 50.663     | 0.136      | -21.453    | 222.016    | 28.590     | -17.450    | -14.657    | 151.477    | 96.329     | 111.257    |
| 91     | 41.201     | 3.548      | -24.077    | 229.009    | 37.281     | -24.695    | -14.117    | 152.406    | 113.835    | 113.158    |
| 92     | 48.994     | 5.285      | -12.332    | 222.901    | 43.427     | -3.115     | -20.892    | 156.472    | 123.516    | 96.888     |
| 93     | 48.074     | -0.693     | -13.577    | 222.048    | 48.389     | 5.377      | -26.669    | 153.129    | 125.013    | 97.224     |
| 94     | 47.096     | 5.053      | -8.803     | 220.696    | 55.349     | -5.616     | -27.938    | 157.583    | 118.991    | 111.154    |
| 95     | 57.276     | 18.728     | 8.444      | 214.624    | 63.919     | -14.917    | -31.683    | 158.096    | 139.955    | 137.628    |
| 96     | 63.687     | 31.228     | -6.259     | 201.039    | 70.496     | -32.757    | -27.474    | 160.123    | 141.399    | 137.328    |
| 97     | 69.933     | 26.135     | -10.406    | 209.320    | 85.158     | -31.390    | -25.227    | 146.951    | 158.180    | 131.732    |
| 98     | 62.687     | 22.450     | -6.731     | 227.342    | 90.776     | -28.671    | -32.562    | 166.480    | 161.486    | 138.261    |
| 99     | 69.156     | 10.279     | -13.899    | 232.612    | 91.959     | -33.165    | -30.127    | 164.474    | 153.824    | 144.708    |
| 100    | 84.221     | -12.476    | -20.623    | 237.769    | 74.278     | -33.029    | -32.954    | 178.379    | 157.950    | 157.771    |
| 101    | 78.154     | -10.230    | -18.830    | 239.776    | 63.310     | -30.592    | -31.328    | 177.976    | 161.662    | 164.084    |
| 128    | 60.220     | 109.679    | -1.974     | 260.770    | 78.099     | 9.601      | 22.745     | 154.580    | 143.504    | 259.960    |
| 256    | 345.534    | 428.783    | 182.330    | 347.188    | 178.006    | 77.317     | 86.591     | 261.672    | 242.759    | 454.274    |
| 512    | 717.783    | 723.221    | 341.166    | 473.414    | 505.073    | 283.498    | 331.611    | 764.160    | 380.787    | 812.134    |
| 1024   | 1236.600   | 1567.096   | 826.344    | 1172.387   | 702.208    | 646.001    | 719.073    | 931.309    | 890.654    | 1392.981   |
| 2048   | 2293.740   | 2449.750   | 1773.339   | 2426.261   | 1543.287   | 1416.261   | 1759.332   | 1780.452   | 1443.578   | 2740.890   |
| 4096   | 3593.382   | 4940.139   | 3980.277   | 4607.833   | 3728.187   | 3621.208   | 3978.777   | 3766.637   | 2904.252   | 4397.867   |
| 8192   | 7676.847   | 8610.070   | 8333.129   | 7910.162   | 8881.884   | 7146.396   | 7640.124   | 8574.362   | 6592.728   | 8384.231   |
| 16384  | 15487.916  | 17072.957  | 17071.471  | 15044.383  | 16178.620  | 15462.691  | 15826.712  | 15325.584  | 14413.480  | 16548.145  |
| 32768  | 32293.410  | 35629.016  | 34028.211  | 29433.408  | 32347.936  | 32546.686  | 32389.352  | 30998.590  | 30407.209  | 32515.436  |
| 65536  | 64670.680  | 68391.109  | 65974.344  | 64379.504  | 64358.363  | 66458.672  | 68318.672  | 64715.254  | 62162.801  | 65186.012  |
| 131072 | 127302.906 | 134682.906 | 132340.672 | 131825.375 | 127768.336 | 133752.812 | 134103.344 | 131300.453 | 128625.422 | 127469.055 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 258315.047    | 260537.141    | 263587.375    | 270111.281    | 255593.875    | 268006.250    | 265468.062    | 254848.609    | 263181.438    | 258055.859    |
| 524288    | 523336.094    | 521107.531    | 527418.500    | 525169.125    | 515217.750    | 541998.750    | 531095.062    | 523488.281    | 532909.688    | 522620.625    |
| 1048576   | 1041302.380   | 1039741.940   | 1048821.380   | 1045989.190   | 1049088.130   | 1062667.000   | 1059393.880   | 1042067.250   | 1061662.380   | 1049295.500   |
| 2097152   | 2093566.630   | 2083625.880   | 2117034.000   | 2096881.380   | 2096814.880   | 2113416.000   | 2096717.380   | 2097329.750   | 2112136.250   | 2093509.880   |
| 4194304   | 4187385.750   | 4182326.500   | 4233310.500   | 4202795.000   | 4191433.750   | 4188400.500   | 4171922.000   | 4177405.750   | 4218320.500   | 4204922.000   |
| 8388608   | 8403100.000   | 8374347.500   | 8401340.000   | 8381906.000   | 8379772.000   | 8426357.000   | 8349430.000   | 8373929.500   | 8412802.000   | 8401202.000   |
| 16777216  | 16820566.000  | 16722406.000  | 16762838.000  | 16763535.000  | 16772670.000  | 16772851.000  | 16721789.000  | 16744552.000  | 16813564.000  | 16779114.000  |
| 33554432  | 33601596.000  | 33487448.000  | 33548480.000  | 33512016.000  | 33463004.000  | 33530056.000  | 33473124.000  | 33509684.000  | 33551976.000  | 33636164.000  |
| 67108864  | 67155888.000  | 66954296.000  | 67044884.000  | 67110840.000  | 67059920.000  | 67056256.000  | 67101584.000  | 67086772.000  | 67060392.000  | 67260776.000  |
| 134217728 | 134267088.000 | 134029936.000 | 134239856.000 | 134111704.000 | 134052632.000 | 134219968.000 | 134244512.000 | 134281200.000 | 134137872.000 | 134454464.000 |
| 268435456 | 268625312.000 | 268397984.000 | 268413968.000 | 268226960.000 | 268385968.000 | 268398096.000 | 268406928.000 | 268627520.000 | 268254624.000 | 268665824.000 |

# Laplace B= 8

|            | < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = > |          |         |         |        |         |         |         |          |         |
|------------|----------------------------------------------------------------------------------------------------------------------|----------|---------|---------|--------|---------|---------|---------|----------|---------|
| True Count | Simu 1                                                                                                               | Simu 2   | Simu 3  | Simu 4  | Simu 5 | Simu 6  | Simu 7  | Simu 8  | Simu 9   | Simu 10 |
| 1          | 1.969                                                                                                                | 5.958    | -22.485 | -0.537  | 11.059 | -2.301  | 8.363   | -5.002  | 2.898    | 12.285  |
| 2          | 1.240                                                                                                                | -7.671   | -14.508 | -10.407 | 15.797 | -18.375 | 18.470  | -1.757  | -51.276  | 14.455  |
| 3          | 38.817                                                                                                               | -18.328  | -18.034 | -16.119 | 19.241 | -22.944 | 26.326  | 20.739  | -50.236  | 3.780   |
| 4          | 36.323                                                                                                               | -19.702  | -11.007 | -5.701  | 40.306 | -22.815 | 30.343  | 37.354  | -47.290  | -15.899 |
| 5          | 20.662                                                                                                               | -21.576  | -8.431  | -10.184 | 48.857 | -17.214 | 30.682  | 38.343  | -50.264  | -17.894 |
| 6          | 21.253                                                                                                               | -22.987  | -6.039  | -16.569 | 46.288 | -36.875 | 30.762  | 41.913  | -44.996  | -11.431 |
| 7          | 22.367                                                                                                               | 9.701    | -9.699  | -13.939 | 37.551 | -44.719 | 42.145  | 42.255  | -52.374  | -16.746 |
| 8          | 19.880                                                                                                               | 0.343    | -10.734 | 1.642   | 39.856 | -51.063 | 45.686  | 48.135  | -54.941  | -21.125 |
| 9          | 24.432                                                                                                               | 2.433    | -10.607 | -1.398  | 27.384 | -43.115 | 44.119  | 55.670  | -86.934  | -46.532 |
| 10         | 23.388                                                                                                               | -3.620   | 4.745   | -12.477 | 26.223 | -45.582 | 45.642  | 58.416  | -97.556  | -41.907 |
| 11         | 29.321                                                                                                               | -27.944  | -2.183  | 5.808   | -3.938 | -56.862 | 65.699  | 54.403  | -90.463  | -49.505 |
| 12         | 23.554                                                                                                               | -28.894  | 0.813   | 0.020   | -2.159 | -37.214 | 73.004  | 52.640  | -109.840 | -57.049 |
| 13         | 14.329                                                                                                               | -27.004  | -7.051  | 0.095   | 9.157  | -24.491 | 100.078 | 55.834  | -113.751 | -57.802 |
| 14         | 13.387                                                                                                               | -25.136  | -3.058  | 8.422   | -4.833 | -22.089 | 99.380  | 59.523  | -114.760 | -51.662 |
| 15         | -4.512                                                                                                               | -54.366  | 1.110   | 2.927   | 9.519  | -4.948  | 100.774 | 73.080  | -118.745 | -40.519 |
| 16         | -13.403                                                                                                              | -59.264  | -6.153  | 11.472  | 31.763 | -3.940  | 96.413  | 58.874  | -110.379 | -44.213 |
| 17         | -16.042                                                                                                              | -57.406  | -10.013 | 11.638  | 14.964 | -21.088 | 95.871  | 47.357  | -122.479 | -45.863 |
| 18         | -14.034                                                                                                              | -22.125  | -22.223 | 11.994  | 19.612 | -22.828 | 81.228  | 47.040  | -153.713 | -46.281 |
| 19         | -14.412                                                                                                              | -33.007  | -21.367 | 8.160   | 12.369 | -6.608  | 76.116  | 56.199  | -154.409 | -41.031 |
| 20         | -13.397                                                                                                              | -32.768  | -2.961  | 5.350   | 26.272 | -23.076 | 65.849  | 56.211  | -156.059 | -46.696 |
| 21         | 20.587                                                                                                               | -51.899  | 10.367  | -20.129 | 39.041 | -1.377  | 71.449  | 59.465  | -165.049 | -40.170 |
| 22         | 26.298                                                                                                               | -55.332  | -1.528  | -24.556 | 49.304 | 20.049  | 76.589  | 51.317  | -165.312 | -37.414 |
| 23         | 26.756                                                                                                               | -54.048  | 10.376  | -18.016 | 47.885 | 39.463  | 81.941  | 62.959  | -161.624 | -41.853 |
| 24         | 32.207                                                                                                               | -56.674  | 16.059  | -10.856 | 44.859 | 31.672  | 75.822  | 58.796  | -168.755 | -33.310 |
| 25         | 46.552                                                                                                               | -67.432  | 15.459  | -4.066  | 34.976 | 32.516  | 84.668  | 43.279  | -174.621 | -38.634 |
| 26         | 36.458                                                                                                               | -46.574  | 19.569  | 5.433   | 17.613 | 48.624  | 66.021  | 104.477 | -175.637 | -30.170 |
| 27         | 13.240                                                                                                               | -45.319  | 51.135  | -2.530  | 24.371 | 49.433  | 52.023  | 99.636  | -170.563 | -37.738 |
| 28         | 14.376                                                                                                               | -49.553  | 48.976  | -15.886 | 34.603 | 70.299  | 59.401  | 103.161 | -157.874 | -26.299 |
| 29         | 14.549                                                                                                               | -51.501  | 50.127  | -16.476 | 35.869 | 67.146  | 53.908  | 109.994 | -159.143 | -24.565 |
| 30         | 27.246                                                                                                               | -63.222  | 31.238  | -8.269  | 36.228 | 57.320  | 67.300  | 120.569 | -172.003 | -19.316 |
| 31         | 22.880                                                                                                               | -39.452  | 41.443  | -21.270 | 52.400 | 59.616  | 62.917  | 113.602 | -169.565 | -15.073 |
| 32         | 45.461                                                                                                               | -34.452  | 36.161  | -21.980 | 37.433 | 44.193  | 57.918  | 113.355 | -168.844 | -19.785 |
| 33         | 37.772                                                                                                               | -36.642  | 44.253  | -20.774 | 37.777 | 47.106  | 73.450  | 111.868 | -153.359 | -18.067 |
| 34         | 40.197                                                                                                               | -31.918  | 51.919  | -20.352 | 35.384 | 68.849  | 95.754  | 128.431 | -153.264 | -28.972 |
| 35         | 42.242                                                                                                               | -31.414  | 55.578  | -12.246 | 39.178 | 84.448  | 93.407  | 131.120 | -153.351 | -26.734 |
| 36         | 50.935                                                                                                               | -31.005  | 34.787  | -1.184  | 35.632 | 88.367  | 90.591  | 133.893 | -141.942 | -26.621 |
| 37         | 61.964                                                                                                               | -24.290  | 41.186  | -4.367  | 47.857 | 108.839 | 48.809  | 134.641 | -130.087 | -23.181 |
| 38         | 55.489                                                                                                               | -22.095  | 49.935  | -32.797 | 43.939 | 113.341 | 46.410  | 131.900 | -124.162 | -18.843 |
| 39         | 57.329                                                                                                               | -22.613  | 24.491  | -30.349 | 41.509 | 113.773 | 40.908  | 140.749 | -123.886 | -20.184 |
| 40         | 47.446                                                                                                               | -37.151  | 22.957  | -19.731 | 40.141 | 121.142 | 54.880  | 143.451 | -118.741 | -35.641 |
| 41         | 47.482                                                                                                               | -61.227  | 16.933  | 3.809   | 36.430 | 109.153 | 54.140  | 135.194 | -121.013 | -22.088 |
| 42         | 43.747                                                                                                               | -70.743  | 18.402  | -13.152 | 33.383 | 120.796 | 52.186  | 132.841 | -121.581 | -28.999 |
| 43         | 28.777                                                                                                               | -90.488  | -1.945  | -5.637  | 64.033 | 119.620 | 56.682  | 135.519 | -110.811 | -36.649 |
| 44         | 26.167                                                                                                               | -88.997  | -0.308  | -0.872  | 61.507 | 127.345 | 56.268  | 137.718 | -108.420 | -28.575 |
| 45         | 38.798                                                                                                               | -76.719  | 3.497   | 3.257   | 60.490 | 124.174 | 67.188  | 139.261 | -100.167 | -39.005 |
| 46         | 42.986                                                                                                               | -66.211  | -2.192  | 14.741  | 73.379 | 122.884 | 66.886  | 129.407 | -97.756  | -26.925 |
| 47         | 49.780                                                                                                               | -56.246  | -1.568  | 28.356  | 70.672 | 142.226 | 42.219  | 135.808 | -99.749  | -47.320 |
| 48         | 45.731                                                                                                               | -47.216  | -4.343  | 31.045  | 71.839 | 156.191 | 45.233  | 136.557 | -101.272 | -59.558 |
| 49         | 40.037                                                                                                               | -99.992  | -6.977  | 21.624  | 71.533 | 147.691 | 41.824  | 144.902 | -97.236  | -49.950 |
| 50         | 35.839                                                                                                               | -104.951 | -12.672 | 29.651  | 73.526 | 136.477 | 21.924  | 162.391 | -97.994  | -72.760 |
| 51         | 46.758                                                                                                               | -116.162 | -21.893 | 33.882  | 72.894 | 123.101 | 21.345  | 151.205 | -84.323  | -71.850 |
| 52         | 61.168                                                                                                               | -129.621 | -15.785 | 28.015  | 83.727 | 87.381  | -9.153  | 145.322 | -64.226  | -69.433 |
| 53         | 62.260                                                                                                               | -131.021 | -32.773 | 3.897   | 90.137 | 92.305  | -11.365 | 135.962 | -62.029  | -81.228 |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 57.507     | -126.095   | -35.351    | -1.866     | 90.687     | 85.450     | -11.164    | 134.373    | -93.096    | -80.420    |
| 55     | 73.626     | -129.187   | -27.406    | 1.208      | 123.590    | 76.179     | -14.912    | 137.625    | -93.949    | -71.390    |
| 56     | 55.378     | -128.334   | -50.986    | 1.975      | 129.289    | 78.504     | -1.657     | 138.833    | -97.512    | -89.613    |
| 57     | 62.068     | -127.420   | -42.562    | 5.743      | 167.369    | 87.579     | -15.032    | 145.681    | -88.531    | -95.155    |
| 58     | 70.813     | -134.703   | -42.657    | -1.461     | 119.413    | 88.502     | -19.408    | 157.786    | -69.318    | -109.950   |
| 59     | 90.579     | -131.976   | -47.098    | 2.154      | 119.991    | 89.119     | -20.922    | 168.896    | -64.849    | -108.359   |
| 60     | 103.893    | -140.167   | -34.640    | 1.425      | 105.131    | 83.642     | -26.958    | 167.435    | -82.848    | -105.809   |
| 61     | 71.560     | -135.416   | -47.711    | 5.833      | 120.581    | 80.232     | -31.409    | 163.829    | -72.662    | -106.545   |
| 62     | 92.945     | -137.623   | -65.810    | -0.999     | 131.445    | 70.997     | -40.824    | 181.623    | -69.011    | -108.709   |
| 63     | 98.619     | -133.390   | -64.570    | -0.233     | 139.677    | 75.303     | -43.408    | 204.374    | -59.351    | -118.546   |
| 64     | 82.709     | -117.911   | -81.777    | -3.220     | 140.988    | 76.988     | -49.215    | 203.182    | -46.614    | -116.321   |
| 65     | 87.635     | -117.495   | -81.669    | -0.233     | 156.820    | 75.163     | -37.605    | 203.134    | -67.127    | -113.081   |
| 66     | 117.878    | -112.446   | -92.699    | 8.877      | 156.322    | 76.050     | -33.809    | 203.669    | -65.110    | -112.001   |
| 67     | 120.804    | -107.609   | -131.429   | 4.789      | 149.703    | 77.160     | -17.609    | 195.889    | -45.616    | -74.499    |
| 68     | 129.340    | -102.100   | -120.412   | 7.064      | 143.724    | 65.812     | -14.602    | 180.565    | -36.756    | -80.904    |
| 69     | 141.815    | -96.062    | -118.257   | 17.716     | 126.596    | 69.449     | -27.798    | 191.398    | -37.228    | -85.766    |
| 70     | 137.741    | -93.896    | -137.251   | 25.235     | 138.641    | 69.088     | -26.558    | 186.763    | -31.796    | -121.653   |
| 71     | 154.327    | -83.790    | -144.542   | 17.128     | 105.482    | 86.603     | -34.301    | 202.316    | -32.399    | -110.623   |
| 72     | 143.619    | -89.447    | -146.850   | 14.010     | 127.931    | 79.214     | -27.057    | 205.035    | -31.460    | -113.364   |
| 73     | 144.214    | -81.405    | -161.033   | 10.678     | 127.331    | 78.409     | -32.317    | 216.624    | -35.023    | -113.303   |
| 74     | 147.521    | -71.410    | -133.025   | 14.647     | 127.446    | 98.596     | -25.122    | 217.401    | -29.976    | -190.845   |
| 75     | 153.266    | -91.332    | -136.619   | 7.359      | 127.476    | 106.797    | -4.367     | 221.129    | -27.659    | -190.328   |
| 76     | 160.641    | -84.001    | -150.781   | -16.040    | 149.252    | 101.794    | -11.216    | 213.043    | -26.671    | -188.534   |
| 77     | 161.741    | -87.169    | -157.557   | -12.151    | 140.772    | 93.771     | -19.994    | 215.398    | -10.767    | -184.691   |
| 78     | 190.186    | -86.715    | -167.572   | -28.804    | 138.857    | 81.639     | -20.833    | 213.370    | -33.408    | -182.992   |
| 79     | 186.912    | -88.144    | -164.186   | -32.125    | 141.159    | 86.697     | -8.311     | 211.326    | -36.539    | -159.499   |
| 80     | 196.434    | -96.419    | -167.825   | -51.151    | 137.614    | 97.378     | -5.771     | 209.168    | -18.200    | -164.080   |
| 81     | 197.271    | -103.690   | -174.422   | -50.062    | 124.240    | 110.808    | 8.803      | 196.794    | -18.598    | -153.198   |
| 82     | 185.612    | -103.534   | -161.740   | -2.594     | 123.199    | 114.535    | 7.248      | 187.480    | -16.548    | -158.467   |
| 83     | 174.150    | -97.396    | -131.077   | -0.268     | 117.692    | 118.215    | 9.218      | 192.170    | -10.191    | -158.244   |
| 84     | 192.406    | -95.125    | -132.348   | 4.681      | 129.616    | 113.761    | 2.047      | 236.007    | -27.707    | -153.696   |
| 85     | 193.197    | -104.980   | -134.161   | 7.982      | 129.165    | 107.304    | 1.896      | 238.680    | -36.361    | -151.536   |
| 86     | 188.955    | -119.648   | -128.094   | 6.028      | 171.926    | 114.998    | 10.138     | 229.149    | -23.531    | -160.305   |
| 87     | 192.294    | -122.766   | -124.322   | 19.019     | 167.161    | 131.714    | 2.369      | 221.684    | -31.254    | -161.729   |
| 88     | 208.891    | -128.874   | -121.416   | 43.574     | 158.659    | 161.357    | -0.245     | 256.583    | -20.440    | -155.379   |
| 89     | 217.940    | -125.568   | -126.518   | 46.558     | 164.409    | 163.094    | -19.624    | 249.316    | -3.815     | -159.567   |
| 90     | 214.441    | -111.551   | -133.642   | 52.103     | 152.719    | 180.026    | -11.347    | 246.146    | -28.529    | -157.506   |
| 91     | 213.281    | -134.587   | -133.337   | 51.343     | 154.966    | 184.846    | -10.791    | 249.783    | -13.733    | -197.269   |
| 92     | 208.788    | -144.943   | -135.725   | 45.584     | 144.997    | 184.209    | -11.570    | 249.923    | -0.058     | -210.045   |
| 93     | 209.943    | -143.006   | -134.369   | 57.852     | 132.453    | 187.688    | 12.005     | 252.163    | 14.361     | -210.006   |
| 94     | 220.226    | -143.350   | -129.167   | 65.494     | 138.985    | 192.793    | 17.908     | 268.731    | 13.432     | -215.730   |
| 95     | 199.165    | -152.375   | -125.187   | 73.378     | 145.878    | 200.756    | 5.803      | 282.535    | 12.943     | -204.317   |
| 96     | 202.903    | -148.227   | -132.343   | 54.547     | 133.249    | 193.191    | -4.171     | 290.907    | -6.712     | -199.724   |
| 97     | 202.633    | -149.070   | -136.916   | 74.191     | 133.797    | 200.812    | 6.290      | 294.476    | -17.009    | -203.683   |
| 98     | 172.766    | -151.999   | -129.994   | 97.925     | 135.254    | 178.163    | -9.760     | 288.962    | -28.399    | -206.577   |
| 99     | 173.697    | -150.984   | -129.794   | 83.068     | 120.429    | 170.624    | -21.960    | 290.987    | -31.953    | -178.351   |
| 100    | 138.179    | -150.144   | -133.589   | 88.220     | 109.836    | 181.992    | -25.496    | 296.694    | -30.572    | -199.859   |
| 101    | 141.059    | -149.301   | -95.202    | 90.781     | 116.033    | 197.162    | -22.997    | 291.098    | -34.070    | -204.357   |
| 128    | 91.797     | -82.062    | -39.900    | 152.873    | 91.688     | 232.402    | -1.294     | 213.215    | -40.288    | -213.238   |
| 256    | 325.797    | -55.234    | 189.419    | 308.343    | 265.709    | 211.052    | 185.906    | 310.349    | -71.316    | -120.062   |
| 512    | 737.731    | 161.716    | 591.002    | 618.382    | 391.415    | 721.257    | 416.194    | 377.977    | 208.471    | 134.982    |
| 1024   | 837.042    | 938.750    | 1597.149   | 1513.734   | 926.403    | 1277.618   | 630.409    | 520.386    | 831.499    | 966.811    |
| 2048   | 2290.477   | 1973.441   | 2060.863   | 2222.208   | 2125.909   | 1581.639   | 1487.000   | 1572.559   | 2054.529   | 2012.133   |
| 4096   | 4726.178   | 3351.325   | 3965.019   | 4502.238   | 4112.355   | 3140.795   | 3224.625   | 3354.186   | 3564.572   | 3276.851   |
| 8192   | 9424.474   | 7088.347   | 6317.915   | 7645.053   | 8925.136   | 8620.697   | 7011.808   | 7169.708   | 6880.891   | 6693.036   |
| 16384  | 17670.672  | 15581.921  | 16498.143  | 17076.637  | 18694.752  | 17924.783  | 14930.945  | 16263.202  | 13009.533  | 16072.843  |
| 32768  | 34819.547  | 34929.699  | 31351.379  | 32577.426  | 35676.727  | 32450.664  | 31869.562  | 30139.869  | 31376.580  | 33708.727  |
| 65536  | 66416.625  | 68795.219  | 63650.203  | 67860.570  | 66363.375  | 60953.598  | 66096.664  | 63460.570  | 64019.035  | 66292.461  |
| 131072 | 128805.789 | 132905.234 | 127805.258 | 130098.500 | 133253.219 | 131289.969 | 130945.922 | 130785.320 | 129566.266 | 133330.938 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 266859.781    | 269636.438    | 264163.344    | 265687.156    | 256393.719    | 258121.344    | 259053.453    | 256772.641    | 261855.859    | 266156.000    |
| 524288    | 523651.125    | 540119.000    | 529185.312    | 523699.688    | 521886.438    | 517320.312    | 526285.188    | 523720.375    | 524021.688    | 533504.625    |
| 1048576   | 1052724.630   | 1070437.380   | 1055707.250   | 1039542.750   | 1043535.880   | 1056092.880   | 1050488.500   | 1038755.120   | 1039616.810   | 1047520.060   |
| 2097152   | 2091663.880   | 2120340.250   | 2103681.000   | 2117588.250   | 2103204.250   | 2114209.500   | 2096745.130   | 2080636.380   | 2093680.250   | 2107489.750   |
| 4194304   | 4210483.500   | 4218135.000   | 4203119.500   | 4216846.500   | 4261328.000   | 4198738.000   | 4180304.250   | 4199199.000   | 4177859.500   | 4214816.500   |
| 8388608   | 8410199.000   | 8427972.000   | 8402190.000   | 8437161.000   | 8414283.000   | 8375508.500   | 8397445.000   | 8397644.000   | 8374308.000   | 8391543.000   |
| 16777216  | 16798974.000  | 16853750.000  | 16758786.000  | 16792646.000  | 16783260.000  | 16755322.000  | 16752450.000  | 16779402.000  | 16772580.000  | 16763029.000  |
| 33554432  | 33558724.000  | 33614968.000  | 33570264.000  | 33532332.000  | 33518868.000  | 33512602.000  | 33540080.000  | 33598752.000  | 33525446.000  | 33528328.000  |
| 67108864  | 67176112.000  | 67120216.000  | 67163640.000  | 67044048.000  | 67041140.000  | 67011064.000  | 66966424.000  | 67221752.000  | 67091440.000  | 67058288.000  |
| 134217728 | 134392928.000 | 134087576.000 | 134298096.000 | 134259264.000 | 134240848.000 | 134145704.000 | 133934240.000 | 134326000.000 | 134174264.000 | 134167768.000 |
| 268435456 | 268445824.000 | 268289488.000 | 268473376.000 | 268469120.000 | 268451328.000 | 268125952.000 | 268094912.000 | 268633376.000 | 268330240.000 | 268459744.000 |

# Laplace B= 9

| < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = > |         |         |         |         |         |         |         |         |         |          |
|--------------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| True Count                                                                                                         | Simu 1  | Simu 2  | Simu 3  | Simu 4  | Simu 5  | Simu 6  | Simu 7  | Simu 8  | Simu 9  | Simu 10  |
| 1                                                                                                                  | 40.184  | 7.097   | 17.173  | 0.547   | -1.239  | 3.689   | -9.148  | 23.088  | 31.546  | -6.842   |
| 2                                                                                                                  | 39.910  | 20.800  | 10.565  | -21.746 | 18.911  | 5.001   | -11.074 | 5.940   | 25.437  | -7.073   |
| 3                                                                                                                  | -2.741  | 25.082  | 11.921  | -24.692 | 27.337  | 8.314   | -9.354  | 1.564   | 27.227  | -25.464  |
| 4                                                                                                                  | 2.395   | 32.752  | 11.311  | 22.855  | 38.741  | 4.663   | -3.521  | 0.885   | 34.965  | -39.205  |
| 5                                                                                                                  | -10.529 | 32.129  | 17.822  | 24.027  | 32.668  | 2.526   | -5.650  | 6.410   | 47.098  | -42.991  |
| 6                                                                                                                  | -2.959  | 27.284  | 23.059  | 13.082  | 37.953  | 2.617   | -4.394  | 32.518  | 63.687  | -43.254  |
| 7                                                                                                                  | 11.031  | 26.948  | 28.880  | 31.744  | 34.849  | -12.059 | -4.134  | 36.846  | 78.181  | -44.708  |
| 8                                                                                                                  | -4.398  | 38.486  | 4.790   | 32.410  | 13.494  | -10.024 | 8.542   | 46.678  | 72.788  | -82.658  |
| 9                                                                                                                  | 37.695  | 51.658  | 6.610   | 63.423  | 3.970   | -33.874 | 11.110  | 54.626  | 75.093  | -61.918  |
| 10                                                                                                                 | 35.654  | 42.040  | -0.630  | 48.970  | 3.323   | -25.741 | 18.543  | 77.352  | 100.584 | -63.279  |
| 11                                                                                                                 | 32.952  | 54.330  | 17.908  | 44.232  | 5.950   | -22.670 | -2.481  | 80.890  | 82.560  | -79.408  |
| 12                                                                                                                 | 102.622 | -4.215  | 26.186  | 49.062  | -17.653 | -29.978 | -1.199  | 78.060  | 110.930 | -69.819  |
| 13                                                                                                                 | 100.851 | 7.908   | 11.537  | 50.729  | -12.994 | -8.153  | 10.944  | 89.849  | 109.964 | -39.046  |
| 14                                                                                                                 | 105.778 | 7.577   | 5.954   | 43.418  | -14.027 | 11.249  | 26.571  | 88.646  | 110.940 | -42.147  |
| 15                                                                                                                 | 105.269 | 15.414  | -0.478  | -28.787 | -16.809 | 10.737  | 27.597  | 97.181  | 111.717 | -31.285  |
| 16                                                                                                                 | 118.720 | 0.483   | 3.106   | -31.327 | -33.953 | 15.107  | 49.310  | 106.057 | 85.715  | -30.401  |
| 17                                                                                                                 | 104.607 | 5.845   | -12.893 | -38.019 | -50.384 | 18.636  | 60.161  | 110.833 | 72.866  | -43.085  |
| 18                                                                                                                 | 100.779 | 4.982   | -32.829 | -28.160 | -54.187 | 3.452   | 68.371  | 135.872 | 67.480  | -49.850  |
| 19                                                                                                                 | 64.850  | -16.351 | -13.772 | -29.171 | -63.336 | 23.177  | 68.336  | 134.973 | 69.115  | -47.865  |
| 20                                                                                                                 | 76.337  | -13.438 | -25.862 | -21.902 | -51.980 | 29.833  | 76.291  | 131.165 | 73.295  | -56.051  |
| 21                                                                                                                 | 33.714  | -12.225 | -12.708 | -19.976 | -82.132 | 36.709  | 68.568  | 142.108 | 62.994  | -53.423  |
| 22                                                                                                                 | 49.805  | -12.755 | -3.717  | -32.009 | -81.399 | 74.493  | 75.112  | 151.093 | 58.708  | -57.803  |
| 23                                                                                                                 | 31.150  | -10.354 | -6.899  | -30.985 | -83.551 | 59.625  | 92.668  | 135.068 | 66.660  | -64.181  |
| 24                                                                                                                 | 31.465  | -11.256 | -18.030 | -30.305 | -86.959 | 59.581  | 99.651  | 113.964 | 58.914  | -89.967  |
| 25                                                                                                                 | 23.512  | 0.234   | -19.376 | -22.034 | -52.089 | 94.056  | 106.687 | 107.834 | 57.972  | -95.472  |
| 26                                                                                                                 | 24.359  | 21.972  | -15.481 | -32.013 | -68.262 | 60.626  | 108.666 | 103.928 | 68.149  | -88.772  |
| 27                                                                                                                 | 15.685  | 17.016  | 41.993  | -44.422 | -71.346 | 57.957  | 122.241 | 108.604 | 67.692  | -75.792  |
| 28                                                                                                                 | 24.631  | 11.661  | 49.606  | -39.482 | -73.772 | 44.218  | 118.264 | 103.600 | 65.429  | -59.805  |
| 29                                                                                                                 | 9.047   | 27.601  | 51.474  | -39.019 | -83.675 | 24.181  | 122.170 | 102.288 | 73.157  | -65.550  |
| 30                                                                                                                 | 14.337  | 24.872  | 60.829  | -46.294 | -80.321 | 13.932  | 135.840 | 118.926 | 70.690  | -70.586  |
| 31                                                                                                                 | 11.609  | 13.135  | 61.645  | -41.970 | -69.408 | 8.579   | 123.395 | 123.105 | 54.640  | -67.344  |
| 32                                                                                                                 | 5.866   | 10.366  | 67.443  | -48.637 | -64.027 | 43.566  | 144.193 | 122.199 | 47.930  | -74.090  |
| 33                                                                                                                 | 8.695   | 17.760  | 68.536  | -38.774 | -59.886 | 71.933  | 152.119 | 161.514 | 51.363  | -70.769  |
| 34                                                                                                                 | 16.775  | 17.595  | 91.775  | -21.117 | -41.917 | 74.074  | 151.581 | 148.345 | 44.103  | -74.260  |
| 35                                                                                                                 | 5.242   | 26.063  | 105.194 | -32.980 | -47.622 | 95.071  | 176.206 | 114.195 | 53.504  | -91.968  |
| 36                                                                                                                 | 6.996   | 26.724  | 107.553 | -42.833 | -45.387 | 85.645  | 171.731 | 109.074 | 53.439  | -99.740  |
| 37                                                                                                                 | 44.427  | 15.417  | 106.601 | -46.879 | -50.814 | 92.866  | 167.126 | 104.520 | 47.162  | -96.821  |
| 38                                                                                                                 | 43.036  | 16.763  | 95.590  | -50.027 | -59.857 | 100.883 | 161.132 | 108.351 | 31.645  | -92.401  |
| 39                                                                                                                 | 49.769  | 18.885  | 74.815  | -50.771 | -46.035 | 105.529 | 198.506 | 91.967  | 20.455  | -93.878  |
| 40                                                                                                                 | 41.446  | 1.214   | 70.651  | -45.814 | -59.972 | 103.991 | 196.739 | 108.454 | 32.256  | -118.782 |
| 41                                                                                                                 | 49.085  | -13.066 | 81.183  | -26.473 | -61.324 | 93.897  | 188.837 | 108.979 | 62.022  | -114.031 |
| 42                                                                                                                 | 71.898  | -31.886 | 61.597  | -24.802 | -74.412 | 91.694  | 201.751 | 103.679 | 47.390  | -84.074  |
| 43                                                                                                                 | 76.641  | -39.594 | 60.803  | -44.957 | -64.071 | 91.827  | 206.221 | 94.382  | 52.151  | -67.314  |
| 44                                                                                                                 | 89.624  | -41.098 | 60.248  | -47.478 | -63.541 | 83.318  | 214.595 | 98.232  | 37.292  | -66.799  |
| 45                                                                                                                 | 94.326  | -32.084 | 54.757  | -46.804 | -33.104 | 76.432  | 218.365 | 104.536 | 58.569  | -58.587  |
| 46                                                                                                                 | 82.519  | -58.734 | 48.405  | -37.213 | -19.506 | 77.841  | 229.497 | 121.725 | 70.665  | -51.609  |
| 47                                                                                                                 | 88.133  | -54.623 | 50.853  | -31.497 | -24.612 | 77.739  | 230.291 | 124.993 | 46.115  | -27.648  |
| 48                                                                                                                 | 84.434  | -49.777 | 51.483  | -29.380 | -17.262 | 93.958  | 243.165 | 125.482 | 48.465  | -76.699  |
| 49                                                                                                                 | 76.017  | -50.149 | 52.716  | -30.510 | -38.197 | 93.574  | 244.503 | 121.315 | 53.679  | -71.004  |
| 50                                                                                                                 | 78.880  | -18.514 | 46.938  | -9.880  | -32.559 | 80.322  | 251.428 | 114.533 | 40.618  | -100.168 |
| 51                                                                                                                 | 85.753  | -11.510 | 52.427  | -12.974 | -35.440 | 80.129  | 249.844 | 126.701 | 43.568  | -103.192 |
| 52                                                                                                                 | 74.921  | -2.162  | 44.375  | -9.505  | -35.244 | 58.047  | 255.665 | 136.303 | 48.677  | -98.237  |
| 53                                                                                                                 | 92.277  | -12.359 | 38.543  | -5.104  | -21.192 | 56.553  | 259.015 | 118.087 | 40.505  | -98.233  |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 113.891    | -12.448    | 44.811     | 8.636      | -57.395    | 49.463     | 261.142    | 109.258    | 28.957     | -96.840    |
| 55     | 111.275    | -17.453    | 38.233     | 8.276      | -69.337    | 50.474     | 270.138    | 102.817    | 67.676     | -99.464    |
| 56     | 106.435    | -16.956    | 45.657     | 30.373     | -53.170    | 50.814     | 270.540    | 110.448    | 59.815     | -96.677    |
| 57     | 104.481    | 35.868     | -8.260     | 27.820     | -25.349    | 64.879     | 246.385    | 109.126    | 77.193     | -93.731    |
| 58     | 102.628    | 37.998     | -50.180    | 24.030     | -52.897    | 73.265     | 237.370    | 117.032    | 69.212     | -130.584   |
| 59     | 95.931     | 60.942     | -51.575    | 17.303     | -62.088    | 94.945     | 233.666    | 134.526    | 70.945     | -117.277   |
| 60     | 99.964     | 62.385     | -48.664    | 10.135     | -56.898    | 93.764     | 238.255    | 146.123    | 66.749     | -120.511   |
| 61     | 109.401    | 53.098     | -40.228    | -0.445     | -51.330    | 112.800    | 234.885    | 142.312    | 64.723     | -94.425    |
| 62     | 120.072    | 58.335     | -1.203     | 10.688     | -54.434    | 114.238    | 236.873    | 143.229    | 64.732     | -93.371    |
| 63     | 128.892    | 59.076     | -0.080     | -5.771     | -55.445    | 120.128    | 230.474    | 133.337    | 70.831     | -103.815   |
| 64     | 131.942    | 85.148     | -13.904    | 4.782      | -95.821    | 120.650    | 214.755    | 137.820    | 53.503     | -114.528   |
| 65     | 143.548    | 84.242     | -13.434    | -25.517    | -135.637   | 119.863    | 207.415    | 135.298    | 62.710     | -112.583   |
| 66     | 144.759    | 84.422     | 10.719     | -22.013    | -160.281   | 128.178    | 207.721    | 140.228    | 31.414     | -129.610   |
| 67     | 153.739    | 78.159     | -8.382     | -64.137    | -151.319   | 117.760    | 215.478    | 138.816    | 37.467     | -128.982   |
| 68     | 149.441    | 81.293     | -9.410     | -112.146   | -143.777   | 84.632     | 202.423    | 137.414    | 29.710     | -116.066   |
| 69     | 166.974    | 84.304     | -12.783    | -110.937   | -138.745   | 80.528     | 211.202    | 142.059    | 28.332     | -116.847   |
| 70     | 179.204    | 106.382    | -2.211     | -108.441   | -142.550   | 63.959     | 168.178    | 134.122    | 34.209     | -112.127   |
| 71     | 167.611    | 101.574    | 5.010      | -99.019    | -138.490   | 64.759     | 170.271    | 117.111    | 28.558     | -116.040   |
| 72     | 180.458    | 109.799    | 10.072     | -99.446    | -126.357   | 74.466     | 159.536    | 122.012    | 24.152     | -107.876   |
| 73     | 210.763    | 101.898    | 0.417      | -87.569    | -131.680   | 71.241     | 128.715    | 119.052    | 17.074     | -104.200   |
| 74     | 216.419    | 98.174     | -7.673     | -64.986    | -138.621   | 72.854     | 130.201    | 127.477    | 31.728     | -104.179   |
| 75     | 226.843    | 96.663     | -6.000     | -94.697    | -136.901   | 83.081     | 132.810    | 129.242    | 31.077     | -85.881    |
| 76     | 234.838    | 96.067     | -19.071    | -103.309   | -112.254   | 93.506     | 119.108    | 117.897    | 26.051     | -75.239    |
| 77     | 234.921    | 105.606    | -9.385     | -84.651    | -108.405   | 92.413     | 124.126    | 140.764    | 31.431     | -77.223    |
| 78     | 221.011    | 101.917    | -0.836     | -80.445    | -73.324    | 107.377    | 124.371    | 149.133    | 52.650     | -95.879    |
| 79     | 222.427    | 99.099     | 5.961      | -53.455    | -78.560    | 116.181    | 134.103    | 150.699    | 43.872     | -75.198    |
| 80     | 208.754    | 110.271    | 18.257     | 0.190      | -91.563    | 89.095     | 136.932    | 155.145    | 26.775     | -70.741    |
| 81     | 208.777    | 95.391     | 15.978     | -6.951     | -88.104    | 91.402     | 106.507    | 174.002    | 22.696     | -91.739    |
| 82     | 213.612    | 74.226     | 13.970     | -13.620    | -95.249    | 108.756    | 129.472    | 190.345    | 20.998     | -72.473    |
| 83     | 229.060    | 56.977     | -12.727    | -12.802    | -103.174   | 119.370    | 118.816    | 201.076    | 24.644     | -77.834    |
| 84     | 261.245    | 61.919     | -4.485     | -9.207     | -100.866   | 140.622    | 106.028    | 199.922    | 14.670     | -71.804    |
| 85     | 274.973    | 52.502     | -21.972    | -26.149    | -96.963    | 135.099    | 103.813    | 199.553    | 36.360     | -73.279    |
| 86     | 273.761    | 45.822     | -21.016    | -28.663    | -86.289    | 117.605    | 93.120     | 189.096    | 27.582     | -76.402    |
| 87     | 282.411    | 46.093     | -14.361    | -18.387    | -65.450    | 114.637    | 84.464     | 195.043    | 18.425     | -69.492    |
| 88     | 252.709    | 44.203     | -4.325     | -24.669    | -65.935    | 109.904    | 87.203     | 189.364    | 0.139      | -54.576    |
| 89     | 251.336    | 60.997     | -26.107    | -18.072    | -42.728    | 115.111    | 101.634    | 190.901    | 2.702      | -90.331    |
| 90     | 232.344    | 63.473     | -38.039    | -22.363    | -38.620    | 125.179    | 100.300    | 211.730    | -11.918    | -91.124    |
| 91     | 223.734    | 72.354     | -24.640    | -32.999    | -42.203    | 109.945    | 93.124     | 210.188    | -14.734    | -83.090    |
| 92     | 226.362    | 84.508     | -31.918    | -9.549     | -41.623    | 96.329     | 84.226     | 184.120    | -44.153    | -82.324    |
| 93     | 219.706    | 65.685     | -33.760    | -6.305     | -46.468    | 104.963    | 88.521     | 181.436    | -48.027    | -27.727    |
| 94     | 221.375    | 67.361     | -36.016    | -23.570    | -37.981    | 107.793    | 91.269     | 194.223    | -46.735    | -23.898    |
| 95     | 238.867    | 78.145     | -33.737    | -25.953    | -39.418    | 123.207    | 79.079     | 188.947    | -45.397    | -34.190    |
| 96     | 234.229    | 88.190     | -35.918    | -19.942    | -32.261    | 119.538    | 72.141     | 185.916    | -44.785    | -32.652    |
| 97     | 255.699    | 101.573    | -7.152     | -26.023    | -29.386    | 98.857     | 74.074     | 169.909    | -41.939    | -49.414    |
| 98     | 262.008    | 110.709    | 7.616      | -23.035    | -28.141    | 92.809     | 71.549     | 169.669    | -54.141    | -22.886    |
| 99     | 255.314    | 112.365    | 35.855     | -28.156    | -42.935    | 85.290     | 67.793     | 156.827    | -56.333    | -15.884    |
| 100    | 255.504    | 110.566    | 45.551     | -39.222    | -38.102    | 93.728     | 76.950     | 139.805    | -37.177    | -9.008     |
| 101    | 259.430    | 107.413    | 49.968     | -49.949    | -44.589    | 92.067     | 59.961     | 147.936    | -13.809    | -23.372    |
| 128    | 200.913    | 93.511     | -7.193     | -165.061   | -2.671     | 81.705     | 17.511     | 92.087     | 27.985     | -91.941    |
| 256    | 411.757    | 197.676    | 89.127     | 148.813    | 454.859    | 367.637    | 420.987    | 89.348     | 124.444    | 78.250     |
| 512    | 355.651    | 370.640    | 95.324     | 259.409    | 1119.028   | 430.478    | 685.024    | 259.860    | 735.325    | 288.203    |
| 1024   | 1491.806   | 828.249    | 480.729    | 265.768    | 1909.829   | 557.417    | 1049.541   | 833.698    | 1136.189   | 676.942    |
| 2048   | 2515.604   | 1646.580   | 1338.976   | 1557.038   | 2871.609   | 1762.433   | 2108.260   | 2244.332   | 2436.175   | 2030.473   |
| 4096   | 3786.864   | 4044.460   | 3934.389   | 3341.629   | 4673.797   | 4423.397   | 4294.357   | 4865.714   | 4059.166   | 4646.829   |
| 8192   | 7227.674   | 7891.971   | 8357.233   | 6784.964   | 9012.844   | 9200.198   | 8117.644   | 9078.565   | 7830.710   | 6635.200   |
| 16384  | 15803.439  | 16289.907  | 15015.830  | 15584.018  | 15058.833  | 17663.945  | 16347.499  | 15579.639  | 16304.430  | 16343.046  |
| 32768  | 32476.844  | 30540.137  | 31524.539  | 32535.068  | 30276.842  | 30714.402  | 32949.559  | 30548.826  | 32896.188  | 31420.221  |
| 65536  | 65508.121  | 65613.477  | 67515.742  | 67340.484  | 61806.941  | 64865.898  | 64452.629  | 57588.488  | 65225.051  | 65692.820  |
| 131072 | 135186.516 | 131338.484 | 127417.633 | 131945.500 | 124698.438 | 130747.406 | 131154.812 | 122465.531 | 127020.641 | 133509.062 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 265247.719    | 264877.938    | 256613.641    | 269432.688    | 257240.922    | 260915.938    | 252365.781    | 249282.125    | 252920.719    | 268628.594    |
| 524288    | 518817.969    | 527195.938    | 522052.688    | 521038.062    | 519407.906    | 526098.250    | 518936.188    | 515943.969    | 513083.969    | 526464.875    |
| 1048576   | 1052875.500   | 1058570.130   | 1029109.810   | 1036813.810   | 1038931.120   | 1043890.310   | 1043104.190   | 1025812.940   | 1034089.560   | 1043998.500   |
| 2097152   | 2098055.750   | 2108727.000   | 2083879.880   | 2101535.250   | 2065259.750   | 2098924.500   | 2097912.750   | 2067852.630   | 2120201.250   | 2089169.130   |
| 4194304   | 4193193.000   | 4191520.500   | 4179934.500   | 4189243.000   | 4170175.250   | 4181849.500   | 4198514.000   | 4183535.000   | 4236825.500   | 4212446.500   |
| 8388608   | 8393234.000   | 8416111.000   | 8355771.500   | 8405464.000   | 8335839.500   | 8443989.000   | 8334435.000   | 8420377.000   | 8462257.000   | 8412125.000   |
| 16777216  | 16824382.000  | 16817536.000  | 16782882.000  | 16802772.000  | 16699785.000  | 16766463.000  | 16716395.000  | 16876280.000  | 16881064.000  | 16749595.000  |
| 33554432  | 33528582.000  | 33549110.000  | 33596828.000  | 33588024.000  | 33484442.000  | 33510868.000  | 33523946.000  | 33707952.000  | 33644592.000  | 33561024.000  |
| 67108864  | 67058888.000  | 67121568.000  | 67044116.000  | 67095720.000  | 67080468.000  | 67034264.000  | 67074092.000  | 67221256.000  | 67237928.000  | 67135712.000  |
| 134217728 | 134206208.000 | 134168944.000 | 134364160.000 | 134235328.000 | 134183304.000 | 134064112.000 | 134157296.000 | 134412464.000 | 134286144.000 | 134317216.000 |
| 268435456 | 268455936.000 | 268255328.000 | 268646784.000 | 268454016.000 | 268412864.000 | 268233920.000 | 268497568.000 | 268656800.000 | 268223568.000 | 268514720.000 |

# Laplace B= 10

| < = = = = = = = = Differentially Private Count = = = = = = = = = = = = = = = = = = = = = = = = = > |         |         |         |         |         |         |         |         |         |         |
|----------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| True Count                                                                                         | Simu 1  | Simu 2  | Simu 3  | Simu 4  | Simu 5  | Simu 6  | Simu 7  | Simu 8  | Simu 9  | Simu 10 |
| 1                                                                                                  | -23.170 | 10.433  | -4.744  | -0.235  | -5.725  | 5.787   | 6.644   | -4.099  | -0.916  | -30.194 |
| 2                                                                                                  | -11.490 | 14.305  | -14.338 | -19.264 | 11.469  | 0.538   | 15.033  | 26.991  | 0.162   | -7.904  |
| 3                                                                                                  | -9.700  | 11.189  | -13.050 | -8.822  | 31.303  | 3.480   | 16.384  | 26.473  | -23.125 | -23.301 |
| 4                                                                                                  | -7.916  | 16.272  | -9.544  | -2.338  | 27.589  | 11.720  | 14.935  | 28.689  | -19.923 | -11.572 |
| 5                                                                                                  | -2.884  | 12.359  | 34.362  | -10.684 | 25.957  | -16.944 | 17.904  | 30.611  | -22.253 | -10.548 |
| 6                                                                                                  | 16.609  | 54.310  | 37.491  | 0.969   | 35.207  | -14.909 | 10.977  | 48.328  | -16.723 | -6.028  |
| 7                                                                                                  | 39.123  | 32.042  | 47.902  | 0.436   | 23.449  | -25.577 | 16.950  | 81.059  | -23.759 | -1.488  |
| 8                                                                                                  | 37.981  | 33.391  | 22.735  | 10.875  | 28.534  | -25.260 | -5.682  | 75.195  | -3.831  | 16.626  |
| 9                                                                                                  | 43.402  | 40.393  | 20.629  | 13.383  | 24.584  | -23.433 | -11.877 | 73.579  | 17.215  | 30.039  |
| 10                                                                                                 | 73.421  | 23.411  | 30.886  | 20.306  | 24.338  | -21.391 | -7.557  | 69.819  | 6.262   | 38.257  |
| 11                                                                                                 | 73.163  | 25.898  | 49.556  | 11.944  | 12.043  | -21.623 | 5.097   | 49.132  | 16.425  | 47.996  |
| 12                                                                                                 | 92.395  | 27.250  | 53.441  | 14.860  | 19.840  | -21.736 | -21.041 | 62.022  | 9.870   | 49.794  |
| 13                                                                                                 | 96.366  | 21.085  | 42.583  | 26.238  | 26.757  | -25.110 | -37.168 | 62.904  | -39.072 | 33.276  |
| 14                                                                                                 | 106.575 | 34.935  | 26.059  | 28.738  | 25.634  | -19.505 | -36.089 | 88.285  | -51.132 | 21.187  |
| 15                                                                                                 | 78.551  | 77.062  | 26.809  | 36.039  | 49.424  | -22.026 | -46.430 | 91.401  | -36.361 | 13.749  |
| 16                                                                                                 | 91.520  | 73.736  | 30.381  | 38.309  | 7.607   | -11.915 | -37.241 | 101.189 | -30.860 | 9.298   |
| 17                                                                                                 | 129.357 | 89.100  | 43.860  | 53.763  | 27.855  | 14.299  | -13.364 | 115.215 | -25.611 | 6.586   |
| 18                                                                                                 | 128.249 | 84.485  | 45.980  | 64.034  | 31.771  | 18.033  | -15.229 | 115.963 | -23.561 | -4.061  |
| 19                                                                                                 | 127.671 | 103.681 | 45.705  | 70.463  | 31.616  | 15.942  | -23.753 | 120.298 | -24.012 | -8.730  |
| 20                                                                                                 | 143.060 | 128.662 | 19.030  | 70.535  | 34.154  | 22.802  | -29.648 | 121.349 | -12.774 | -6.716  |
| 21                                                                                                 | 220.986 | 137.495 | 18.778  | 71.071  | 31.552  | 24.301  | -29.211 | 126.282 | -10.431 | -2.373  |
| 22                                                                                                 | 193.212 | 162.564 | 16.161  | 67.021  | 49.615  | 18.931  | -29.020 | 129.341 | -2.341  | -27.258 |
| 23                                                                                                 | 199.170 | 167.689 | 25.871  | 62.202  | 47.156  | 12.277  | -41.148 | 124.487 | 13.182  | -37.225 |
| 24                                                                                                 | 192.945 | 166.936 | 23.711  | 81.690  | 68.356  | 6.161   | -35.030 | 112.900 | 12.304  | -39.481 |
| 25                                                                                                 | 184.944 | 209.363 | 23.870  | 84.312  | 64.459  | 9.984   | -34.164 | 128.713 | 21.096  | -53.181 |
| 26                                                                                                 | 194.837 | 215.957 | 16.760  | 102.714 | 62.664  | 2.474   | -70.301 | 126.647 | 35.919  | -65.995 |
| 27                                                                                                 | 200.504 | 209.483 | 2.870   | 76.599  | 69.349  | 17.940  | -76.292 | 128.353 | 36.038  | -58.512 |
| 28                                                                                                 | 204.385 | 188.273 | -2.014  | 80.854  | 69.982  | 6.934   | -37.750 | 125.468 | 38.015  | -33.535 |
| 29                                                                                                 | 228.601 | 182.815 | 19.457  | 80.569  | 63.792  | 17.929  | -33.861 | 113.802 | 49.861  | -43.653 |
| 30                                                                                                 | 204.937 | 179.262 | 21.128  | 89.873  | 53.385  | 26.242  | -28.567 | 177.704 | 61.457  | -49.538 |
| 31                                                                                                 | 204.400 | 154.411 | 25.577  | 90.297  | 60.732  | 30.907  | -28.708 | 174.603 | 63.059  | -55.187 |
| 32                                                                                                 | 214.605 | 171.905 | 34.633  | 84.856  | 52.847  | 30.843  | -16.438 | 167.153 | 62.402  | -59.021 |
| 33                                                                                                 | 201.441 | 178.315 | 25.521  | 86.037  | 57.672  | 34.086  | -20.467 | 174.443 | 76.300  | -54.228 |
| 34                                                                                                 | 206.170 | 178.718 | 78.680  | 97.718  | 59.892  | 43.239  | -37.076 | 156.169 | 73.233  | -54.056 |
| 35                                                                                                 | 211.772 | 185.105 | 75.778  | 93.405  | 55.556  | 22.222  | -41.225 | 163.802 | 58.627  | -68.639 |
| 36                                                                                                 | 208.900 | 188.091 | 68.672  | 96.146  | 13.382  | 35.019  | -41.445 | 152.020 | 53.831  | -76.372 |
| 37                                                                                                 | 219.681 | 188.907 | 66.267  | 111.022 | 14.749  | 43.072  | -63.686 | 166.841 | 59.887  | -36.715 |
| 38                                                                                                 | 223.270 | 189.355 | 65.494  | 112.960 | 37.790  | 49.615  | -41.100 | 173.897 | 49.559  | -39.635 |
| 39                                                                                                 | 246.489 | 182.157 | 48.100  | 120.580 | 37.210  | 47.125  | -33.630 | 184.166 | 58.036  | -27.218 |
| 40                                                                                                 | 250.816 | 196.420 | 47.137  | 106.990 | 48.822  | 45.560  | -29.353 | 183.639 | 61.245  | 16.696  |
| 41                                                                                                 | 241.194 | 196.036 | 64.149  | 108.672 | 44.898  | 36.656  | -40.932 | 172.161 | 50.774  | 6.083   |
| 42                                                                                                 | 245.986 | 193.037 | 58.911  | 86.594  | 39.895  | 38.392  | -41.513 | 174.046 | 51.274  | 17.321  |
| 43                                                                                                 | 259.866 | 188.917 | 44.653  | 46.430  | 46.574  | 63.024  | -41.887 | 189.656 | 18.012  | 19.404  |
| 44                                                                                                 | 237.717 | 193.000 | 45.284  | 68.755  | 44.093  | 43.221  | -42.803 | 197.501 | 17.058  | 27.211  |
| 45                                                                                                 | 242.074 | 218.051 | 33.275  | 73.471  | 77.646  | 46.001  | -22.658 | 198.173 | 23.960  | 13.267  |
| 46                                                                                                 | 240.294 | 224.554 | 33.200  | 79.080  | 78.894  | 17.262  | -26.173 | 198.854 | 27.633  | 23.992  |
| 47                                                                                                 | 242.829 | 228.434 | 16.317  | 69.018  | 62.657  | -0.872  | -29.092 | 183.787 | 30.369  | 70.788  |
| 48                                                                                                 | 227.020 | 228.274 | 22.781  | 76.278  | 60.245  | -1.554  | -19.978 | 178.441 | 37.452  | 32.727  |
| 49                                                                                                 | 233.580 | 226.164 | 11.473  | 45.591  | 86.528  | 19.396  | -2.322  | 191.431 | 44.693  | 34.194  |
| 50                                                                                                 | 226.755 | 212.724 | 18.597  | 50.310  | 87.340  | 31.126  | -7.713  | 189.924 | 54.779  | 17.552  |
| 51                                                                                                 | 231.216 | 214.082 | 19.799  | 47.520  | 94.616  | 29.925  | -27.047 | 189.747 | 49.128  | 10.436  |
| 52                                                                                                 | 262.503 | 218.926 | 15.365  | 39.941  | 103.305 | 25.907  | -37.483 | 195.264 | 41.629  | -4.759  |
| 53                                                                                                 | 287.752 | 216.257 | 19.893  | 36.817  | 117.211 | 32.409  | -40.131 | 188.843 | 54.862  | 0.111   |

|        |            |            |            |            |            |            |            |            |            |            |
|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 54     | 300.934    | 229.299    | 13.643     | 23.731     | 120.051    | 39.254     | -36.180    | 187.541    | 41.866     | 17.200     |
| 55     | 298.447    | 240.170    | 7.018      | 35.537     | 131.469    | 38.789     | -21.411    | 185.483    | 29.694     | 15.705     |
| 56     | 290.276    | 222.255    | -35.834    | 47.686     | 130.448    | 41.239     | -32.014    | 154.225    | -34.300    | 38.441     |
| 57     | 289.035    | 225.889    | 8.182      | 48.698     | 116.009    | 50.467     | -31.211    | 146.316    | -17.812    | 39.951     |
| 58     | 300.523    | 231.445    | -2.798     | 60.048     | 111.601    | 39.489     | 16.932     | 145.540    | -52.534    | 38.087     |
| 59     | 304.883    | 228.948    | -3.611     | 62.224     | 112.325    | 59.932     | 20.176     | 138.387    | -51.342    | 29.086     |
| 60     | 314.179    | 231.033    | -9.702     | 54.526     | 121.792    | 56.407     | 9.170      | 142.314    | -67.401    | 44.879     |
| 61     | 314.529    | 209.846    | -9.678     | 42.415     | 124.227    | 49.129     | 11.415     | 121.352    | -76.698    | 43.549     |
| 62     | 310.462    | 223.232    | 17.871     | 49.363     | 117.321    | 51.557     | 23.629     | 109.051    | -74.740    | 33.835     |
| 63     | 320.646    | 262.084    | 37.731     | 60.903     | 135.704    | 50.375     | 24.917     | 109.378    | -74.137    | 42.693     |
| 64     | 330.930    | 258.861    | 22.362     | 85.931     | 143.395    | 46.547     | 25.762     | 97.579     | -90.019    | 34.342     |
| 65     | 332.628    | 255.061    | 38.537     | 79.813     | 140.631    | 35.673     | 30.106     | 106.823    | -88.246    | 49.624     |
| 66     | 326.526    | 216.934    | 30.072     | 78.372     | 132.302    | 27.648     | -17.891    | 98.317     | -90.389    | 35.762     |
| 67     | 342.472    | 212.126    | 23.934     | 79.412     | 141.060    | 36.290     | -25.439    | 109.827    | -93.745    | 35.164     |
| 68     | 325.291    | 225.184    | 20.451     | 91.331     | 148.316    | 34.119     | -43.998    | 101.465    | -110.597   | 17.580     |
| 69     | 333.443    | 227.620    | 20.461     | 106.788    | 144.966    | 28.019     | -57.470    | 100.425    | -107.736   | 4.130      |
| 70     | 346.125    | 233.525    | 41.477     | 111.473    | 169.535    | 47.565     | -52.755    | 94.359     | -98.062    | 2.356      |
| 71     | 332.798    | 265.850    | 27.089     | 118.467    | 147.763    | 43.578     | -46.605    | 94.587     | -87.532    | 27.015     |
| 72     | 335.253    | 271.447    | 36.340     | 124.619    | 143.290    | 42.053     | -34.042    | 95.500     | -96.143    | 35.913     |
| 73     | 329.082    | 272.792    | 33.729     | 130.978    | 145.627    | 57.556     | -29.851    | 105.313    | -99.595    | 27.119     |
| 74     | 326.951    | 278.161    | 38.019     | 143.945    | 162.416    | 55.756     | -14.092    | 70.592     | -101.974   | 28.267     |
| 75     | 301.129    | 269.797    | 42.130     | 124.688    | 154.817    | 65.400     | -12.726    | 56.999     | -105.989   | 38.257     |
| 76     | 303.935    | 274.492    | 43.092     | 124.795    | 169.734    | 50.014     | -12.444    | 53.663     | -138.742   | 54.231     |
| 77     | 309.358    | 279.125    | 54.366     | 129.468    | 173.453    | 41.116     | -1.072     | 113.904    | -147.837   | 66.763     |
| 78     | 298.893    | 288.789    | 65.329     | 126.295    | 172.844    | 32.846     | 6.458      | 102.531    | -146.683   | 86.229     |
| 79     | 309.891    | 291.806    | 63.951     | 126.094    | 198.531    | 22.182     | 0.779      | 103.089    | -170.829   | 75.917     |
| 80     | 307.108    | 296.174    | 70.267     | 124.240    | 199.447    | 40.300     | 0.976      | 149.300    | -173.311   | 74.182     |
| 81     | 305.463    | 313.239    | 67.326     | 129.239    | 212.585    | 54.458     | 6.338      | 143.484    | -170.964   | 76.829     |
| 82     | 310.253    | 301.128    | 66.520     | 114.078    | 221.543    | 29.221     | 6.904      | 149.445    | -175.746   | 88.452     |
| 83     | 307.531    | 290.894    | 89.313     | 112.993    | 216.335    | 23.319     | -11.672    | 149.326    | -190.947   | 96.183     |
| 84     | 301.486    | 292.414    | 89.122     | 110.328    | 219.013    | 23.902     | -12.970    | 154.611    | -186.262   | 101.666    |
| 85     | 301.897    | 283.833    | 92.043     | 97.616     | 214.180    | 25.157     | -17.203    | 139.405    | -187.769   | 105.835    |
| 86     | 291.877    | 284.002    | 103.601    | 95.266     | 203.058    | 20.814     | -1.569     | 106.110    | -178.441   | 100.934    |
| 87     | 293.922    | 276.760    | 102.574    | 92.269     | 195.803    | 15.955     | 5.661      | 116.193    | -172.441   | 105.376    |
| 88     | 286.093    | 278.185    | 122.834    | 87.090     | 194.364    | 4.054      | 3.116      | 131.057    | -170.296   | 98.686     |
| 89     | 253.453    | 301.786    | 117.747    | 113.009    | 225.893    | -0.255     | 18.421     | 137.305    | -162.983   | 120.704    |
| 90     | 269.397    | 290.721    | 127.553    | 112.045    | 229.067    | 23.214     | -3.057     | 138.476    | -145.056   | 133.415    |
| 91     | 267.374    | 302.703    | 127.073    | 127.502    | 246.671    | 15.923     | -1.207     | 141.492    | -161.365   | 141.401    |
| 92     | 279.222    | 311.923    | 128.807    | 127.230    | 258.975    | -2.171     | -0.398     | 141.024    | -167.648   | 135.984    |
| 93     | 276.585    | 313.755    | 136.611    | 126.881    | 241.533    | -13.761    | -16.069    | 139.919    | -165.754   | 167.441    |
| 94     | 258.682    | 320.127    | 131.117    | 138.632    | 242.656    | -15.370    | -13.784    | 127.076    | -175.323   | 177.584    |
| 95     | 244.009    | 322.365    | 125.480    | 137.908    | 237.383    | -49.569    | 1.735      | 110.947    | -161.927   | 176.275    |
| 96     | 247.265    | 319.246    | 127.102    | 114.074    | 243.816    | -51.380    | 17.801     | 94.619     | -150.770   | 196.180    |
| 97     | 245.326    | 324.772    | 127.411    | 120.021    | 240.850    | -53.693    | 25.032     | 93.963     | -151.920   | 200.444    |
| 98     | 242.740    | 334.413    | 113.091    | 137.057    | 249.070    | -58.676    | 2.274      | 98.987     | -144.900   | 211.758    |
| 99     | 233.719    | 334.146    | 150.974    | 138.961    | 260.655    | -56.487    | 2.234      | 92.178     | -141.419   | 208.042    |
| 100    | 225.081    | 336.156    | 156.241    | 157.272    | 264.014    | -71.752    | 9.579      | 105.807    | -130.577   | 230.635    |
| 101    | 226.381    | 331.595    | 165.091    | 156.974    | 272.232    | -80.195    | 2.376      | 101.792    | -112.293   | 231.921    |
| 128    | 176.014    | 364.899    | 277.491    | 228.832    | 279.655    | -100.556   | 85.894     | 174.632    | -11.490    | 311.221    |
| 256    | 348.969    | 626.778    | 34.027     | 346.186    | 442.148    | 106.220    | 221.170    | 129.085    | -283.027   | 386.808    |
| 512    | 327.340    | 986.782    | 218.288    | 674.922    | 884.687    | 487.804    | 192.371    | 130.379    | -134.122   | 751.229    |
| 1024   | 837.283    | 1645.219   | 866.049    | 1121.148   | 1782.586   | 1743.480   | 1324.046   | 63.854     | 941.690    | 1651.831   |
| 2048   | 1419.938   | 2534.839   | 1906.359   | 2266.416   | 3478.682   | 2309.935   | 1892.123   | 1638.476   | 1540.199   | 3266.876   |
| 4096   | 3404.744   | 4887.449   | 4784.666   | 3829.142   | 4798.908   | 3560.025   | 4628.823   | 3244.279   | 2723.100   | 4344.198   |
| 8192   | 8442.703   | 8399.452   | 9159.682   | 6964.966   | 7664.811   | 6604.683   | 9287.725   | 8997.475   | 6836.959   | 9140.705   |
| 16384  | 18464.916  | 16762.092  | 15996.137  | 16031.311  | 16224.251  | 14883.643  | 16015.665  | 16804.904  | 13983.705  | 17428.633  |
| 32768  | 37079.480  | 29471.824  | 32477.068  | 34361.648  | 31552.096  | 29837.533  | 32968.215  | 32578.285  | 27879.682  | 33134.094  |
| 65536  | 67826.227  | 64256.020  | 62550.039  | 67024.914  | 66122.844  | 61242.098  | 64643.992  | 61478.691  | 62438.629  | 62527.434  |
| 131072 | 139393.031 | 133863.641 | 121458.094 | 122633.500 | 130522.484 | 124831.016 | 127962.375 | 128774.086 | 132834.094 | 131056.344 |

|           |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 262144    | 270791.875    | 269079.906    | 250187.375    | 250908.141    | 266502.344    | 253254.734    | 257616.516    | 259105.438    | 262552.719    | 256092.391    |
| 524288    | 538426.938    | 529622.688    | 508086.531    | 514606.438    | 529276.062    | 514477.719    | 505439.438    | 528169.250    | 515664.844    | 512614.313    |
| 1048576   | 1059809.000   | 1047698.810   | 1029405.810   | 1028291.250   | 1073109.880   | 1053718.880   | 1023063.500   | 1040834.560   | 1038155.620   | 1042795.380   |
| 2097152   | 2109676.250   | 2105989.000   | 2106695.500   | 2089221.380   | 2129687.250   | 2106313.500   | 2074314.750   | 2081420.500   | 2110362.750   | 2080808.130   |
| 4194304   | 4214490.000   | 4235480.000   | 4212468.000   | 4193434.250   | 4224096.500   | 4199888.000   | 4153333.250   | 4206663.000   | 4218496.500   | 4164890.750   |
| 8388608   | 8365088.500   | 8395854.000   | 8381972.000   | 8409706.000   | 8473905.000   | 8350733.500   | 8342572.500   | 8424858.000   | 8411182.000   | 8307987.500   |
| 16777216  | 16755950.000  | 16799758.000  | 16860202.000  | 16784188.000  | 16898154.000  | 16753269.000  | 16731561.000  | 16804938.000  | 16848742.000  | 16699700.000  |
| 33554432  | 33555564.000  | 33496988.000  | 33638756.000  | 33505460.000  | 33787928.000  | 33499536.000  | 33468300.000  | 33586792.000  | 33609440.000  | 33546770.000  |
| 67108864  | 67165752.000  | 66987484.000  | 67159952.000  | 67192008.000  | 67363856.000  | 67058172.000  | 67044432.000  | 67107116.000  | 67154888.000  | 67210408.000  |
| 134217728 | 134501280.000 | 134022792.000 | 134410656.000 | 134236240.000 | 134488512.000 | 134244192.000 | 133957480.000 | 134236752.000 | 134188544.000 | 134507232.000 |
| 268435456 | 268617472.000 | 268303328.000 | 268627136.000 | 268611680.000 | 268587712.000 | 268111040.000 | 268549696.000 | 268558432.000 | 268526752.000 | 268935840.000 |