



Table 5: Critical Values of χ^2 - Distribution

| df | $\chi^2_{0.995}$ | $\chi^2_{0.990}$ | $\chi^2_{0.975}$ | $\chi^2_{0.950}$ | $\chi^2_{0.900}$ |
|----|------------------|------------------|------------------|------------------|------------------|
| 1 | 0.0000393 | 0.0001571 | 0.0009821 | 0.0039321 | 0.0157908 |
| 2 | 0.0100251 | 0.0201007 | 0.0506356 | 0.1025870 | 0.2107200 |
| 3 | 0.0717212 | 0.1148320 | 0.2157950 | 0.3518460 | 0.5843750 |
| 4 | 0.2069900 | 0.2971100 | 0.4844190 | 0.7107210 | 1.0636230 |
| 5 | 0.4117400 | 0.5543000 | 0.8312110 | 1.1454760 | 1.610310 |
| 6 | 0.675727 | 0.872085 | 1.237347 | 1.635390 | 2.204130 |
| 7 | 0.989265 | 1.239043 | 1.689870 | 2.167350 | 2.833110 |
| 8 | 1.344419 | 1.646482 | 2.179730 | 2.732640 | 3.489540 |
| 9 | 1.734926 | 2.087912 | 2.700390 | 3.325110 | 4.168160 |
| 10 | 2.155850 | 2.558210 | 3.246970 | 3.940300 | 4.865180 |
| 11 | 2.60321 | 3.05347 | 3.81575 | 4.57481 | 5.57779 |
| 12 | 3.07382 | 3.57056 | 4.40379 | 5.22603 | 6.30380 |
| 13 | 3.56503 | 4.10691 | 5.00874 | 5.89186 | 7.04150 |
| 14 | 4.07468 | 4.66043 | 5.62872 | 6.57063 | 7.78953 |
| 15 | 4.60094 | 5.22935 | 6.26214 | 7.26094 | 8.54675 |
| 16 | 5.14224 | 5.81221 | 6.90766 | 7.96164 | 9.31223 |
| 17 | 5.69724 | 6.40776 | 7.56418 | 8.67176 | 10.08520 |
| 18 | 6.26481 | 7.01491 | 8.23075 | 9.39046 | 10.86490 |
| 19 | 6.84398 | 7.63273 | 8.90655 | 10.11700 | 11.65090 |
| 20 | 7.43386 | 8.26040 | 9.59083 | 10.85080 | 12.44260 |
| 21 | 8.03366 | 8.89720 | 10.28293 | 11.59130 | 13.23960 |
| 22 | 8.64272 | 9.54249 | 10.98230 | 12.33800 | 14.04150 |
| 23 | 9.26042 | 10.19567 | 11.68850 | 13.09050 | 14.84790 |
| 24 | 9.88623 | 10.85640 | 12.40110 | 13.84840 | 15.65870 |
| 25 | 10.51970 | 11.52400 | 13.11970 | 14.61140 | 16.47340 |
| 26 | 11.16030 | 12.19810 | 13.84390 | 15.37910 | 17.29190 |
| 27 | 11.80760 | 12.87860 | 14.57330 | 16.15130 | 18.11380 |
| 28 | 12.46130 | 13.56480 | 15.30790 | 16.92790 | 18.93920 |
| 29 | 13.12110 | 14.25650 | 16.04710 | 17.70830 | 19.76770 |
| 30 | 13.78670 | 14.95350 | 16.79080 | 18.49260 | 20.59920 |

Table 5: Continued

| df | $\chi^2_{0.100}$ | $\chi^2_{0.050}$ | $\chi^2_{0.025}$ | $\chi^2_{0.010}$ | $\chi^2_{0.005}$ |
|----|------------------|------------------|------------------|------------------|------------------|
| 1 | 2.70554 | 3.84146 | 5.02389 | 6.63490 | 7.87944 |
| 2 | 4.60517 | 5.99147 | 7.37776 | 9.21034 | 10.59660 |
| 3 | 6.25139 | 7.81473 | 9.34840 | 11.34490 | 12.83810 |
| 4 | 7.77944 | 9.48773 | 11.14330 | 13.27670 | 14.86020 |
| 5 | 9.23635 | 11.07050 | 12.83250 | 15.08630 | 16.74960 |
| 6 | 10.6446 | 12.5916 | 14.4494 | 16.8119 | 18.5476 |
| 7 | 12.0170 | 14.0671 | 16.0128 | 18.4753 | 20.2777 |
| 8 | 13.3616 | 15.5073 | 17.5346 | 20.0902 | 21.9550 |
| 9 | 14.6837 | 16.9190 | 19.0228 | 21.6660 | 23.5893 |
| 10 | 15.9871 | 18.3070 | 20.4831 | 23.2093 | 25.1882 |
| 11 | 17.2750 | 19.6751 | 21.9200 | 24.7250 | 26.7569 |
| 12 | 18.5494 | 21.0261 | 23.3367 | 26.2170 | 28.2995 |
| 13 | 19.8119 | 22.3621 | 24.7356 | 27.6883 | 29.8194 |
| 14 | 21.0642 | 23.6848 | 26.1190 | 29.1413 | 31.3193 |
| 15 | 22.3072 | 24.9958 | 27.4884 | 30.5779 | 32.8013 |
| 16 | 23.5418 | 26.2962 | 28.8485 | 31.9999 | 34.2672 |
| 17 | 24.7690 | 27.5871 | 30.1910 | 33.4087 | 35.7185 |
| 18 | 25.9894 | 28.8693 | 31.5264 | 34.8053 | 37.1564 |
| 19 | 27.2036 | 30.1435 | 32.8523 | 36.1908 | 38.5822 |
| 20 | 28.4120 | 31.4104 | 34.1696 | 37.5662 | 39.9968 |
| 21 | 29.6151 | 32.6705 | 35.4789 | 38.9321 | 41.4010 |
| 22 | 30.8133 | 33.9244 | 36.7807 | 40.2894 | 42.7956 |
| 23 | 32.0069 | 35.1725 | 38.0757 | 41.6384 | 44.1813 |
| 24 | 33.1963 | 36.4151 | 39.3641 | 42.9798 | 45.5585 |
| 25 | 34.3816 | 37.6525 | 40.6465 | 44.3141 | 46.9278 |
| 26 | 35.5631 | 38.8852 | 41.9232 | 45.6417 | 48.2899 |
| 27 | 36.7412 | 40.1133 | 43.1944 | 46.9630 | 49.6449 |
| 28 | 37.9159 | 41.3372 | 44.4607 | 48.2782 | 50.9933 |
| 29 | 39.0875 | 42.5569 | 45.7222 | 49.5879 | 52.3356 |
| 30 | 40.2560 | 43.7729 | 46.9792 | 50.8922 | 53.6720 |
| 40 | 20.7065 | 22.1643 | 24.4331 | 26.5093 | 29.0505 |
| 50 | 27.9907 | 29.7067 | 32.3574 | 34.7642 | 37.6886 |
| 60 | 35.5346 | 37.4848 | 40.4817 | 43.1879 | 46.4589 |
| 70 | 43.2752 | 45.4418 | 48.7576 | 51.7393 | 55.3290 |
| 80 | 51.1720 | 53.5400 | 57.1532 | 60.3915 | 64.2778 |