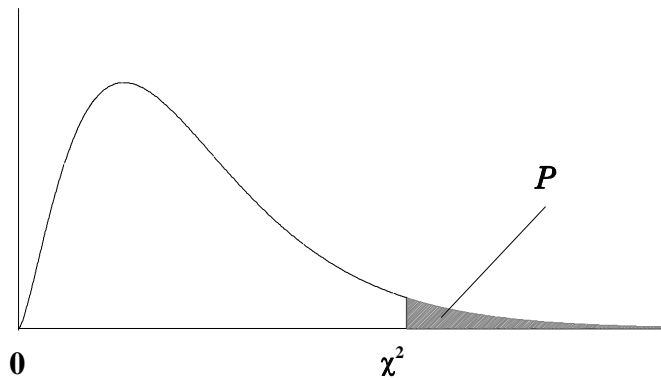


4. Percentage Points of the Chi-Square Distribution



This table gives percentage points of the chi-square distribution on ν d.f. These are the values of χ^2 for which a given percentage, P , of the chi-square distribution is greater than χ^2 .

| P | 97.5 | 95 | 50 | 10 | 5 | 2.5 | 1 | 0.1 |
|-----------|---------|---------|------|------|------|------|------|------|
| $\nu = 1$ | .000982 | 0.00393 | 0.45 | 2.71 | 3.84 | 5.02 | 6.64 | 10.8 |
| 2 | 0.0506 | 0.103 | 1.39 | 4.61 | 5.99 | 7.38 | 9.21 | 13.8 |
| 3 | 0.216 | 0.352 | 2.37 | 6.25 | 7.81 | 9.35 | 11.3 | 16.3 |
| 4 | 0.484 | 0.711 | 3.36 | 7.78 | 9.49 | 11.1 | 13.3 | 18.5 |
| 5 | 0.831 | 1.15 | 4.35 | 9.24 | 11.1 | 12.8 | 15.1 | 20.5 |
| 6 | 1.24 | 1.64 | 5.35 | 10.6 | 12.6 | 14.5 | 16.8 | 22.5 |
| 7 | 1.69 | 2.17 | 6.35 | 12.0 | 14.1 | 16.0 | 18.5 | 24.3 |
| 8 | 2.18 | 2.73 | 7.34 | 13.4 | 15.5 | 17.5 | 20.1 | 26.1 |
| 9 | 2.70 | 3.33 | 8.34 | 14.7 | 16.9 | 19.0 | 21.7 | 27.9 |
| 10 | 3.25 | 3.94 | 9.34 | 16.0 | 18.3 | 20.5 | 23.2 | 29.6 |
| 11 | 3.82 | 4.57 | 10.3 | 17.3 | 19.7 | 21.9 | 24.7 | 31.3 |
| 12 | 4.40 | 5.23 | 11.3 | 18.5 | 21.0 | 23.3 | 26.2 | 32.9 |
| 13 | 5.01 | 5.89 | 12.3 | 19.8 | 22.4 | 24.7 | 27.7 | 34.5 |
| 14 | 5.63 | 6.57 | 13.3 | 21.1 | 23.7 | 26.1 | 29.1 | 36.1 |
| 15 | 6.26 | 7.26 | 14.3 | 22.3 | 25.0 | 27.5 | 30.6 | 37.7 |
| 16 | 6.91 | 7.96 | 15.3 | 23.5 | 26.3 | 28.8 | 32.0 | 39.3 |
| 17 | 7.56 | 8.67 | 16.3 | 24.8 | 27.6 | 30.2 | 33.4 | 40.8 |
| 18 | 8.23 | 9.39 | 17.3 | 26.0 | 28.9 | 31.5 | 34.8 | 42.3 |
| 19 | 8.91 | 10.1 | 18.3 | 27.2 | 30.1 | 32.9 | 36.2 | 43.8 |
| 20 | 9.59 | 10.9 | 19.3 | 28.4 | 31.4 | 34.2 | 37.6 | 45.3 |
| 22 | 11.0 | 12.3 | 21.3 | 30.8 | 33.9 | 36.8 | 40.3 | 48.3 |
| 24 | 12.4 | 13.9 | 23.3 | 33.2 | 36.4 | 39.4 | 43.0 | 51.2 |
| 26 | 13.8 | 15.4 | 25.3 | 35.6 | 38.9 | 41.9 | 45.6 | 54.1 |
| 28 | 15.3 | 16.9 | 27.3 | 37.9 | 41.3 | 44.5 | 48.3 | 56.9 |
| 30 | 16.8 | 18.5 | 29.3 | 40.3 | 43.8 | 47.0 | 50.9 | 59.7 |
| 35 | 20.6 | 22.5 | 34.3 | 46.1 | 49.8 | 53.2 | 57.3 | 66.6 |
| 40 | 24.4 | 26.5 | 39.3 | 51.8 | 55.8 | 59.3 | 63.7 | 73.4 |
| 45 | 28.4 | 30.6 | 44.3 | 57.5 | 61.7 | 65.4 | 70.0 | 80.1 |
| 50 | 32.4 | 34.8 | 49.3 | 63.2 | 67.5 | 71.4 | 76.2 | 86.7 |
| 55 | 36.4 | 39.0 | 54.3 | 68.8 | 73.3 | 77.4 | 82.3 | 93.2 |
| 60 | 40.5 | 43.2 | 59.3 | 74.4 | 79.1 | 83.3 | 88.4 | 99.7 |