Tabla 3. Valores críticos de la distribución χ.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grados de libertad (ν) | Nivel de significación (α) | | | | | | | | | |
| 0,995 | 0,975 | 0,900 | 0,500 | 0,100 | 0,050 | 0,025 | 0,010 | 0,005 | 0,001 |
| 1 | 0,000 | 0,000 | 0,016 | 0,455 | 2,706 | 3,841 | 5,024 | 6,635 | 7,879 | 10,828 |
| 2 | 0,010 | 0,051 | 0,211 | 1,386 | 4,605 | 5,991 | 7,378 | 9,210 | 10,597 | 13,816 |
| 3 | 0,072 | 0,216 | 0,584 | 2,366 | 6,251 | 7,815 | 9,348 | 11,345 | 12,838 | 16,266 |
| 4 | 0,207 | 0,484 | 1,064 | 3,357 | 7,779 | 9,488 | 11,143 | 13,277 | 14,860 | 18,467 |
| 5 | 0,412 | 0,831 | 1,610 | 4,351 | 9,236 | 11,070 | 12,832 | 15,086 | 16,750 | 20,515 |
| 6 | 0,676 | 1,237 | 2,204 | 5,348 | 10,645 | 12,592 | 14,449 | 16,812 | 18,548 | 22,458 |
| 7 | 0,989 | 1,690 | 2,833 | 6,346 | 12,017 | 14,067 | 16,013 | 18,475 | 20,278 | 24,322 |
| 8 | 1,344 | 2,180 | 3,490 | 7,344 | 13,362 | 15,507 | 17,535 | 20,090 | 21,955 | 26,124 |
| 9 | 1,735 | 2,700 | 4,168 | 8,343 | 14,684 | 16,919 | 19,023 | 21,666 | 23,589 | 27,877 |
| 10 | 2,156 | 3,247 | 4,865 | 9,342 | 15,987 | 18,307 | 20,483 | 23,209 | 25,188 | 29,588 |
| 11 | 2,603 | 3,816 | 5,578 | 10,341 | 17,275 | 19,675 | 21,920 | 24,725 | 26,757 | 31,264 |
| 12 | 3,074 | 4,404 | 6,304 | 11,340 | 18,549 | 21,026 | 23,337 | 26,217 | 28,300 | 32,910 |
| 13 | 3,565 | 5,009 | 7,042 | 12,340 | 19,812 | 22,362 | 24,736 | 27,688 | 29,819 | 34,528 |
| 14 | 4,075 | 5,629 | 7,790 | 13,339 | 21,064 | 23,685 | 26,119 | 29,141 | 31,319 | 36,123 |
| 15 | 4,601 | 6,262 | 8,547 | 14,339 | 22,307 | 24,996 | 27,488 | 30,578 | 32,801 | 37,697 |
| 16 | 5,142 | 6,908 | 9,312 | 15,338 | 23,542 | 26,296 | 28,845 | 32,000 | 34,267 | 39,252 |
| 17 | 5,697 | 7,564 | 10,085 | 16,338 | 24,769 | 27,587 | 30,191 | 33,409 | 35,718 | 40,790 |
| 18 | 6,265 | 8,231 | 10,865 | 17,338 | 25,989 | 28,869 | 31,526 | 34,805 | 37,156 | 42,312 |
| 19 | 6,844 | 8,907 | 11,651 | 18,338 | 27,204 | 30,144 | 32,852 | 36,191 | 38,582 | 43,820 |
| 20 | 7,434 | 9,591 | 12,443 | 19,337 | 28,412 | 31,410 | 34,170 | 37,566 | 39,997 | 45,315 |
| 21 | 8,034 | 10,283 | 13,240 | 20,337 | 29,615 | 32,670 | 35,479 | 38,932 | 41,401 | 46,797 |
| 22 | 8,643 | 10,982 | 14,042 | 21,337 | 30,813 | 33,924 | 36,781 | 40,289 | 42,796 | 48,268 |
| 23 | 9,260 | 11,688 | 14,848 | 22,337 | 32,007 | 35,172 | 38,076 | 41,638 | 44,181 | 49,728 |
| 24 | 9,886 | 12,401 | 15,659 | 23,337 | 33,196 | 36,415 | 39,364 | 42,980 | 45,558 | 51,179 |
| 25 | 10,520 | 13,120 | 16,473 | 24,337 | 34,382 | 37,652 | 40,646 | 44,314 | 46,928 | 52,620 |

Tabla 3. Continuación.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grados de libertad (ν) | Nivel de significación (α) | | | | | | | | | |
| 0,995 | 0,975 | 0,900 | 0,500 | 0,100 | 0,050 | 0,025 | 0,010 | 0,005 | 0,001 |
| 26 | 11,160 | 13,844 | 17,292 | 25,336 | 35,563 | 38,885 | 41,923 | 45,642 | 48,290 | 54,052 |
| 27 | 11,808 | 14,573 | 18,114 | 26,336 | 36,741 | 40,113 | 43,194 | 46,963 | 49,645 | 55,476 |
| 28 | 12,461 | 15,308 | 18,939 | 27,336 | 37,916 | 41,337 | 44,461 | 48,278 | 50,993 | 56,892 |
| 29 | 13,121 | 16,047 | 19,768 | 28,336 | 39,088 | 42,557 | 45,722 | 49,588 | 52,336 | 58,301 |
| 30 | 13,787 | 16,791 | 20,599 | 29,336 | 40,256 | 43,773 | 46,979 | 50,892 | 53,672 | 59,703 |
| 31 | 14,458 | 17,539 | 21,434 | 30,336 | 41,422 | 44,985 | 48,232 | 52,191 | 55,003 | 61,098 |
| 32 | 15,134 | 18,291 | 22,271 | 31,336 | 42,585 | 46,194 | 49,480 | 53,486 | 56,329 | 62,487 |
| 33 | 15,815 | 19,047 | 23,110 | 32,336 | 43,745 | 47,400 | 50,725 | 54,776 | 57,649 | 63,870 |
| 34 | 16,501 | 19,806 | 23,952 | 33,336 | 44,903 | 48,602 | 51,966 | 56,061 | 58,964 | 65,247 |
| 35 | 17,192 | 20,569 | 24,797 | 34,336 | 46,059 | 49,802 | 53,203 | 57,342 | 60,275 | 66,619 |
| 36 | 17,887 | 21,336 | 25,643 | 35,336 | 47,212 | 50,998 | 54,437 | 58,619 | 61,582 | 67,985 |
| 37 | 18,586 | 22,106 | 26,492 | 36,335 | 48,363 | 52,192 | 55,668 | 59,892 | 62,884 | 69,346 |
| 38 | 19,289 | 22,878 | 27,343 | 37,335 | 49,513 | 53,384 | 56,896 | 61,162 | 64,182 | 70,703 |
| 39 | 19,996 | 23,654 | 28,196 | 38,335 | 50,660 | 54,572 | 58,120 | 62,428 | 65,476 | 72,055 |
| 40 | 20,707 | 24,433 | 29,051 | 39,335 | 51,805 | 55,758 | 59,342 | 63,691 | 66,766 | 73,402 |
| 41 | 21,421 | 25,215 | 29,907 | 40,335 | 52,949 | 56,942 | 60,561 | 64,950 | 68,053 | 74,745 |
| 42 | 22,138 | 25,999 | 30,765 | 41,335 | 54,090 | 58,124 | 61,777 | 66,206 | 69,336 | 76,084 |
| 43 | 22,859 | 26,785 | 31,625 | 42,335 | 55,230 | 59,304 | 62,990 | 67,459 | 70,616 | 77,419 |
| 44 | 23,584 | 27,575 | 32,487 | 43,335 | 56,369 | 60,481 | 64,202 | 68,710 | 71,893 | 78,750 |
| 45 | 24,311 | 28,366 | 33,350 | 44,335 | 57,505 | 61,656 | 65,410 | 69,957 | 73,166 | 80,077 |
| 46 | 25,042 | 29,160 | 34,215 | 45,335 | 58,641 | 62,830 | 66,617 | 71,201 | 74,437 | 81,400 |
| 47 | 25,775 | 29,956 | 35,081 | 46,335 | 59,774 | 64,001 | 67,821 | 72,443 | 75,704 | 82,720 |
| 48 | 26,511 | 30,755 | 35,949 | 47,335 | 60,907 | 65,171 | 69,023 | 73,683 | 76,969 | 84,037 |
| 49 | 27,249 | 31,555 | 36,818 | 48,335 | 62,038 | 66,339 | 70,222 | 74,919 | 78,231 | 85,351 |
| 50 | 27,991 | 32,357 | 37,689 | 49,335 | 63,167 | 67,505 | 71,420 | 76,154 | 79,490 | 86,661 |

Tabla 3. Continuación.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grados de libertad (ν) | Nivel de significación (α) | | | | | | | | | |
| 0,995 | 0,975 | 0,900 | 0,500 | 0,100 | 0,050 | 0,025 | 0,010 | 0,005 | 0,001 |
| 51 | 28,735 | 33,162 | 38,560 | 50,335 | 64,295 | 68,669 | 72,616 | 77,386 | 80,747 | 87,968 |
| 52 | 29,481 | 33,968 | 39,433 | 51,335 | 65,422 | 69,832 | 73,810 | 78,616 | 82,001 | 89,272 |
| 53 | 30,230 | 34,776 | 40,308 | 52,335 | 66,548 | 70,993 | 75,002 | 79,843 | 83,253 | 90,573 |
| 54 | 30,981 | 35,586 | 41,183 | 53,335 | 67,673 | 72,153 | 76,192 | 81,069 | 84,502 | 91,872 |
| 55 | 31,735 | 36,398 | 42,060 | 54,335 | 68,796 | 73,311 | 77,380 | 82,292 | 85,749 | 93,168 |
| 56 | 32,490 | 37,212 | 42,937 | 55,335 | 69,918 | 74,468 | 78,567 | 83,513 | 86,994 | 94,460 |
| 57 | 33,248 | 38,027 | 43,816 | 56,335 | 71,040 | 75,624 | 79,752 | 84,733 | 88,237 | 95,751 |
| 58 | 34,008 | 38,844 | 44,696 | 57,335 | 72,160 | 76,778 | 80,936 | 85,950 | 89,477 | 97,039 |
| 59 | 34,770 | 39,662 | 45,577 | 58,335 | 73,279 | 77,931 | 82,117 | 87,166 | 90,715 | 98,324 |
| 60 | 35,534 | 40,482 | 46,459 | 59,335 | 74,397 | 79,082 | 83,298 | 88,379 | 91,952 | 99,607 |
| 61 | 36,300 | 41,303 | 47,342 | 60,335 | 75,514 | 80,232 | 84,476 | 89,591 | 93,186 | 100,888 |
| 62 | 37,068 | 42,126 | 48,226 | 61,335 | 76,630 | 81,381 | 85,654 | 90,802 | 94,419 | 102,166 |
| 63 | 37,838 | 42,950 | 49,111 | 62,335 | 77,745 | 82,529 | 86,830 | 92,010 | 95,649 | 103,442 |
| 64 | 38,610 | 43,776 | 49,996 | 63,335 | 78,860 | 83,675 | 88,004 | 93,217 | 96,878 | 104,716 |
| 65 | 39,383 | 44,603 | 50,883 | 64,335 | 79,973 | 84,821 | 89,177 | 94,422 | 98,105 | 105,988 |
| 66 | 40,158 | 45,431 | 51,770 | 65,335 | 81,085 | 85,965 | 90,349 | 95,626 | 99,331 | 107,258 |
| 67 | 40,935 | 46,261 | 52,659 | 66,335 | 82,197 | 87,108 | 91,519 | 96,828 | 100,550 | 108,526 |
| 68 | 41,713 | 47,092 | 53,548 | 67,334 | 83,308 | 88,250 | 92,689 | 98,028 | 101,780 | 109,791 |
| 69 | 42,494 | 47,924 | 54,438 | 68,334 | 84,418 | 89,391 | 93,856 | 99,228 | 103,000 | 111,055 |
| 70 | 43,275 | 48,758 | 55,329 | 69,334 | 85,527 | 90,531 | 95,023 | 100,430 | 104,210 | 112,317 |
| 71 | 44,058 | 49,592 | 56,221 | 70,334 | 86,635 | 91,670 | 96,189 | 101,620 | 105,430 | 113,577 |
| 72 | 44,843 | 50,428 | 57,113 | 71,334 | 87,743 | 92,808 | 97,353 | 102,820 | 106,650 | 114,835 |
| 73 | 45,629 | 51,265 | 58,006 | 72,334 | 88,850 | 93,945 | 98,516 | 104,010 | 107,860 | 116,092 |
| 74 | 46,417 | 52,103 | 58,900 | 73,334 | 89,956 | 95,081 | 99,678 | 105,200 | 109,070 | 117,346 |
| 75 | 47,206 | 52,942 | 59,795 | 74,334 | 91,061 | 96,217 | 100,840 | 106,390 | 110,290 | 118,599 |

Tabla 3. Continuación.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grados de libertad (ν) | Nivel de significación (α) | | | | | | | | | |
| 0,995 | 0,975 | 0,900 | 0,500 | 0,100 | 0,050 | 0,025 | 0,010 | 0,005 | 0,001 |
| 76 | 47,997 | 53,782 | 60,690 | 75,334 | 92,166 | 97,351 | 102,000 | 107,580 | 111,500 | 119,850 |
| 77 | 48,788 | 54,623 | 61,586 | 76,334 | 93,270 | 98,484 | 103,160 | 108,770 | 112,700 | 121,100 |
| 78 | 49,582 | 55,466 | 62,483 | 77,334 | 94,373 | 99,617 | 104,320 | 109,960 | 113,910 | 122,348 |
| 79 | 50,376 | 56,309 | 63,380 | 78,334 | 95,476 | 100,750 | 105,470 | 111,140 | 115,120 | 123,594 |
| 80 | 51,172 | 57,153 | 64,278 | 79,334 | 96,578 | 101,880 | 106,630 | 112,330 | 116,320 | 124,839 |
| 81 | 51,969 | 57,998 | 65,176 | 80,334 | 97,680 | 103,010 | 107,780 | 113,510 | 117,520 | 126,082 |
| 82 | 52,767 | 58,845 | 66,076 | 81,334 | 98,780 | 104,140 | 108,940 | 114,690 | 118,730 | 127,324 |
| 83 | 53,567 | 59,692 | 66,976 | 82,334 | 99,880 | 105,270 | 110,090 | 115,880 | 119,930 | 128,565 |
| 84 | 54,368 | 60,540 | 67,876 | 83,334 | 100,980 | 106,390 | 111,240 | 117,060 | 121,130 | 129,804 |
| 85 | 55,170 | 61,389 | 68,777 | 84,334 | 102,080 | 107,520 | 112,390 | 118,240 | 122,320 | 131,041 |
| 86 | 55,973 | 62,239 | 69,679 | 85,334 | 103,180 | 108,650 | 113,540 | 119,410 | 123,520 | 132,277 |
| 87 | 56,777 | 63,089 | 70,581 | 86,334 | 104,280 | 109,770 | 114,690 | 120,590 | 124,720 | 133,512 |
| 88 | 57,582 | 63,941 | 71,484 | 87,334 | 105,370 | 110,900 | 115,840 | 121,770 | 125,910 | 134,745 |
| 89 | 58,389 | 64,793 | 72,387 | 88,334 | 106,470 | 112,020 | 116,990 | 122,940 | 127,110 | 135,978 |
| 90 | 59,196 | 65,647 | 73,291 | 89,334 | 107,560 | 113,150 | 118,140 | 124,120 | 128,300 | 137,208 |
| 91 | 60,005 | 66,501 | 74,196 | 90,334 | 108,660 | 114,270 | 119,280 | 125,290 | 129,490 | 138,438 |
| 92 | 60,815 | 67,356 | 75,101 | 91,334 | 109,760 | 115,390 | 120,430 | 126,460 | 130,680 | 139,666 |
| 93 | 61,625 | 68,211 | 76,006 | 92,334 | 110,850 | 116,510 | 121,570 | 127,630 | 131,870 | 140,893 |
| 94 | 62,437 | 69,068 | 76,912 | 93,334 | 111,940 | 117,630 | 122,720 | 128,800 | 133,060 | 142,119 |
| 95 | 63,250 | 69,925 | 77,818 | 94,334 | 113,040 | 118,750 | 123,860 | 129,970 | 134,250 | 143,344 |
| 96 | 64,063 | 70,783 | 78,725 | 95,334 | 114,130 | 119,870 | 125,000 | 131,140 | 135,430 | 144,567 |
| 97 | 64,878 | 71,642 | 79,633 | 96,334 | 115,220 | 120,990 | 126,140 | 132,310 | 136,620 | 145,789 |
| 98 | 65,694 | 72,501 | 80,541 | 97,334 | 116,320 | 122,110 | 127,280 | 133,480 | 137,800 | 147,010 |
| 99 | 66,510 | 73,361 | 81,449 | 98,334 | 117,410 | 123,230 | 128,420 | 134,640 | 138,990 | 148,230 |
| 100 | 67,328 | 74,222 | 82,358 | 99,334 | 118,500 | 124,340 | 129,560 | 135,810 | 140,170 | 149,449 |