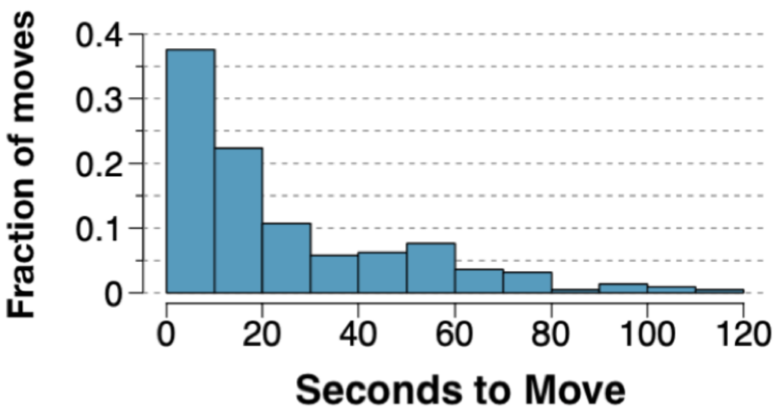
1. A chess player plays a lot of 3-minute games of chess and records how long it takes her to make her moves. The x-axis shows how long the player took to make a move. The y-axis shows the fraction of all of her moves that took that long.



From the histogram above, answer the following:

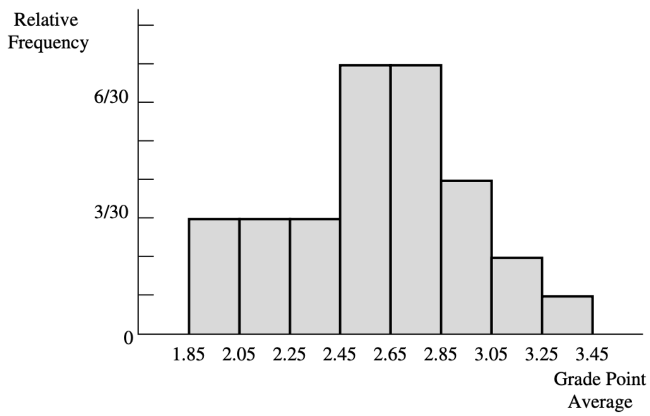
(a) Approximately what percentage of moves took less than 20 seconds? Provide some explanation for how you arrived at your answer.

(b) In which bin is Q_1? (eg. 0-10, or 10-20, or 20-30, etc...) Provide some explanation for how you arrived at your answer.

(c) In which bin is Q_2? (eg. 0-10, or 10-20, or 20-30, etc...) Provide some explanation for how you arrived at your answer.

(d) If possible, state whether the mean or median number of seconds it took to make a move is longer? Provide some explanation for how you arrived at your answer.

2. Given below is a relative frequency histogram associated with grade point averages (GPAs) of a sample of 30 students:



(a) Which of the GPA categories identified on the horizontal axis are associated with the largest proportion of students?

(b) What proportion of students had GPAs in each of the categories that you identified in the previous part.

(c) What proportion of the students had GPAs less than 2.65?

3. A professor gave a test to 140 students and determines the median score. After grading the test, she realizes that the 5 students with the highest scores did exceptionally well. She decides to award there 5 students a bonus of 10 more points. The median of the new score distribution will be _____________ that of the original score distribution (circle the choice that best describes the situation):

   A. smaller than
   B. equal to
   C. larger than
   D. depending on skewness, larger or smaller than
   E. depending on modality, larger or smaller than

   Provide justification for your answer below:

4. The demand for bottled water increases in anticipation of a suspected natural disaster. The number of water bottles sold from a random sample of 9 hours in one store gave the following number of water bottles sold each hour:

$$64, 86, 74, 86, 60, 120, 57, 53$$

   (a) What is the average hourly number of water bottles sold?

   What is the median number of water bottles sold?

   (b) Below are the quartiles computed in R.

Q_1	Q_3
63	86

   Would any of the hours be considered outliers? Justify your answer.

5. A study of potential age discrimination considered promotions among middle managers in a large company, below is som data found:

	Age		
	Up to 39	40 and over	Total
Promoted	38	43	81
Not Promoted	82	88	170
Total	120	131	251

(a) What percent of employees were promoted?

(b) What percent of employees up to age 39 were promoted?

(c) What percent of employees were 40 and over?

(d) What percent of promoted employees were 40 and over?

6. Let A and B be events with $P(A) = \frac{1}{2}$, $P(B) = \frac{1}{3}$, and $P(A|B) = \frac{1}{4}$.

   (a) Find $P(A \text{ and } B)$. Show work to justify your answer.

   (b) Find $P(A \text{ or } B)$. Show work to justify your answer.

   (c) Find $P(A^c)$. Show work to justify your answer.

7. I always go to Summit coffee shop to perform one of three activities:

   - 50% of the visits are to grade for this class
   - 40% of the visits I will read a novel
   - 10% of the visits I will play chess

   Since Davidson is a small town, I will often be interrupted by someone I know. If I am grading, there is a 75% chance someone will interrupt me. If I am reading a novel, there is only a 10% chance someone will interrupt me. There is an 8% chance that I both am playing chess and get interrupted.

   (a) Find the probability that I am both grading and get interrupted. (Show work.)

   (b) Find $P(\text{interrupted}|\text{chess})$. (Show work.)

   (c) Find the probability that I get interrupted. (Show work.)

8. Consider a normal distribution of data with mean 10 and standard deviation 3
   (a) What is the z-score of the data point 12?

   (b) In what percentile is the data point 8?

   (c) What percent of data is between 8 and 12?

9. A soda machine can be adjusted so that it dispenses an average of μ ounces per cup. If the ounces dispensed are normally distributed with standard deviation of 0.2 ounces, what should μ be set to so that an 8 ounce cup will over flow less than 1% of the time?

10. A portfolio's value increases by 16% during a financial boom and by 8% during normal times. It decreases by 12% during a recession. What is the expected percent return on this portfolio if each scenario is equally likely?

11. Cholesterol levels for women aged 20 to 34 follow an approximately normal distribution with mean 185 milligrams per deciliter (mg/dl). Women with cholesterol levels above 220 mg/dl are considered to have high cholesterol and about 18.5% of women fall into this category. What is the standard deviation of the distribution of cholesterol levels for women aged 20 to 34?

12. Kyle commutes to work on a bike, so he goes for a bike ride about 70% of days. He also likes to run and goes for a run 40% of days. The probability that Kyle goes for a run on a day that he already went on a bike ride is 25%. On a random day, what is the probability that Kyle

    (a) both rode his bike and went on a run.

    (b) Either rode his bike or went on a run.

13. Let A and B be events with $P(A) = \frac{1}{2}$, $P(B) = \frac{1}{3}$, and $P(A|B) = \frac{1}{4}$.
   (a) Find $P(A \text{ and } B)$. Show work to justify your answer.

   (b) Find $P(A \text{ or } B)$. Show work to justify your answer.

   (c) Find $P(A^c)$. Show work to justify your answer.

   (d) Are the events independent? Show work to justify your answer.

   (e) Are the events disjoint? Justify your answer.

14. A bag with 3 marbles has 2 red marbles and 1 green marble. Marbles are drawn without replacement (meaning, for example, that on the second draw there will only be two marbles in the bag).
   (a) Describe a sample space for drawing two marbles from the bag.

   (b) What is the probability of drawing two red marbles from the bag.

15. Consider the following hypotheses:

$$H_0 : \mu = 15$$

$$H_A : \mu > 15.$$

(a) Suppose a sample of size 25 is taken from which a sample mean of 17 is computed. The standard deviation of the population is known to be 10. What conclusion about the hypotheses can you make?

(b) Suppose a sample of size 25 is taken from which a sample mean of 17 is computed. The standard deviation of the population is known to be 10. Compute a 90% confidence interval for the population mean.

(c) Suppose a sample of size 25 is taken from which a sample mean of 17 and standard deviation of 10 is computed. What conclusion about the hypotheses can you make?

(d) Suppose a sample of size 25 is taken from which a sample mean of 17 and standard deviation of 10 is computed. Compute a 90% confidence interval for the population mean.

16. Suppose a sample of size 50 is taken and 40% of the sample respond yes to a survey.

    (a) If you want to test the hypothesis that more than 35% of people in the population will respond yes to the survey, what conclusion can you draw from the data?

    (b) Compute 95% confidence interval for the true population mean.

17. Consider the following hypotheses:

$$H_0 : \mu_A = \mu_B$$

$$H_A : \mu_A \neq \mu_B.$$

(a) Suppose a sample of size 25 is taken from each group from which sample means of 17 15 are computed. The standard deviation of group A is known to be 10 and the standard deviation of group B is known to be 8. What conclusion about the hypotheses can you make?

(b) Suppose a sample of size 25 is taken from each group from which sample means of 17 15 are computed. The standard deviation of group A is known to be 10 and the standard deviation of group B is known to be 8. Compute a 80% confidence interval for the difference in the population means.

(c) Suppose a sample of size 25 is taken from each group from which sample means of 17 15 are computed. The sample standard deviation of group A is 10 and the sample standard deviation of group B is 8. What conclusion about the hypotheses can you make?

(d) Suppose a sample of size 25 is taken from each group from which sample means of 17 15 are computed. The sample standard deviation of group A is 10 and the sample standard deviation of group B is 8. Compute an 80% confidence interval for the difference in the population means.

18. The results of a sample of 50 people from group A and 30 people from group B say that 25 in group A prefer a new policy and 20 in group B prefer a new policy.

    (a) If you want to test the hypothesis that the proportion of people in the groups that support a policy are different, what conclusion does the data support?

    (b) Compute 95% confidence interval for the difference in the proportions.

19. A poll conducted found that 52% of U.S. adults support a new policy. The standard error for this estimate was 2.4%. Assume all conditions needed to apply our methods are satisfied. Construct a 99% confidence interval for the proportion of U.S. adults that support the new policy.

20. An unknown distribution has mean 15 and standard deviation 7. A sample size of 350 is randomly drawn from the population. What is the probability that the sample mean is greater than 16?

21. The national sleep foundation conducted a survey on the sleep habits of randomly sampled transportation workers and a control sample of non-transportation workers, the results are shown below:

hours of sleep	Control	Pilots	Truck Drivers
< 6	35	19	35
$6 - 8$	193	132	117
> 8	64	51	51
total	292	202	203

(a) State hypotheses for testing whether there is a statistically significant difference in the proportion of Pilots and Truck Drivers that get between 6 and 8 hours of sleep.

(b) Explain why the conditions of inference are met.

(c) Perform a hypothesis test to see if there is a statistically significant difference.

(d) Form a 95% confidence interval for the true difference in the proportion of pilots and truck drivers that get between 6 and 8 hours of sleep.

Throughout, X is a random variable and x_i is a particular value of X.

$$E(X) = \sum x_i P(X = x_i)$$

$$\mu = \frac{\sum x_i}{N}$$

$$\sigma(E(X)) = \sqrt{\sum (x_i - E(X))^2 P(X = x_i)}$$

$$\overline{X} = \frac{\sum x_i}{n}$$

$$\overline{X} \sim N\left(\mu, \frac{\sigma}{\sqrt{n}}\right)$$

$$\sigma = \sqrt{\frac{\sum(\mu - x_i)^2}{N}}$$

$$\left(\frac{\bar{x} - \mu}{s/\sqrt{n}}\right) \sim t(n-1)$$

$$s = \sqrt{\frac{\sum(\overline{X} - x_i)^2}{n-1}}$$

$$\hat{P} \sim N\left(p, \sqrt{\frac{p(1-p)}{n}}\right)$$

$$IQR = Q_3 - Q_1$$

$$\overline{X_1} - \overline{X_2} \sim N\left(\mu_1 - \mu_2, \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}\right)$$

$$\text{whiskers} = \begin{cases} Q_1 - 1.5 \cdot IQR \\ Q_3 + 1.5 \cdot IQR \end{cases}$$

$$z\text{-score} = \frac{\text{observation} - \text{expected}}{\text{standard deviation}}$$

$$\hat{P}_1 - \hat{P}_2 \sim N\left(p_1 - p_2, \sqrt{\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}}\right)$$

$$t\text{-score} = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

$$\chi^2 = \sum \frac{(\text{observed} - \text{expected})^2}{\text{expected}}$$

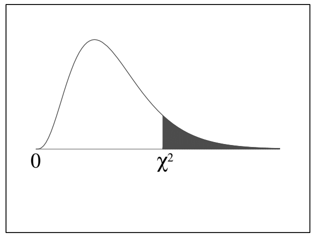
$$P(A|B) = \frac{P(A \text{ and } B)}{P(B)}$$

$$R = \frac{1}{N-1} \sum \frac{x_i - \bar{X}}{s_X} \frac{y_i - \bar{Y}}{s_Y}$$

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

$$b_1 = \frac{s_Y}{s_X} R$$

Chi-Square Distribution Table



The shaded area is equal to α for $\chi^2 = \chi^2_\alpha$.

df	$\chi^2_{.995}$	$\chi^2_{.990}$	$\chi^2_{.975}$	$\chi^2_{.950}$	$\chi^2_{.900}$	$\chi^2_{.100}$	$\chi^2_{.050}$	$\chi^2_{.025}$	$\chi^2_{.010}$	$\chi^2_{.005}$
1	0.000	0.000	0.001	0.004	0.016	2.706	3.841	5.024	6.635	7.879
2	0.010	0.020	0.051	0.103	0.211	4.605	5.991	7.378	9.210	10.597
3	0.072	0.115	0.216	0.352	0.584	6.251	7.815	9.348	11.345	12.838
4	0.207	0.297	0.484	0.711	1.064	7.779	9.488	11.143	13.277	14.860
5	0.412	0.554	0.831	1.145	1.610	9.236	11.070	12.833	15.086	16.750
6	0.676	0.872	1.237	1.635	2.204	10.645	12.592	14.449	16.812	18.548
7	0.989	1.239	1.690	2.167	2.833	12.017	14.067	16.013	18.475	20.278
8	1.344	1.646	2.180	2.733	3.490	13.362	15.507	17.535	20.090	21.955
9	1.735	2.088	2.700	3.325	4.168	14.684	16.919	19.023	21.666	23.589
10	2.156	2.558	3.247	3.940	4.865	15.987	18.307	20.483	23.209	25.188
11	2.603	3.053	3.816	4.575	5.578	17.275	19.675	21.920	24.725	26.757
12	3.074	3.571	4.404	5.226	6.304	18.549	21.026	23.337	26.217	28.300
13	3.565	4.107	5.009	5.892	7.042	19.812	22.362	24.736	27.688	29.819
14	4.075	4.660	5.629	6.571	7.790	21.064	23.685	26.119	29.141	31.319
15	4.601	5.229	6.262	7.261	8.547	22.307	24.996	27.488	30.578	32.801
16	5.142	5.812	6.908	7.962	9.312	23.542	26.296	28.845	32.000	34.267
17	5.697	6.408	7.564	8.672	10.085	24.769	27.587	30.191	33.409	35.718
18	6.265	7.015	8.231	9.390	10.865	25.989	28.869	31.526	34.805	37.156
19	6.844	7.633	8.907	10.117	11.651	27.204	30.144	32.852	36.191	38.582
20	7.434	8.260	9.591	10.851	12.443	28.412	31.410	34.170	37.566	39.997
21	8.034	8.897	10.283	11.591	13.240	29.615	32.671	35.479	38.932	41.401
22	8.643	9.542	10.982	12.338	14.041	30.813	33.924	36.781	40.289	42.796
23	9.260	10.196	11.689	13.091	14.848	32.007	35.172	38.076	41.638	44.181
24	9.886	10.856	12.401	13.848	15.659	33.196	36.415	39.364	42.980	45.559
25	10.520	11.524	13.120	14.611	16.473	34.382	37.652	40.646	44.314	46.928
26	11.160	12.198	13.844	15.379	17.292	35.563	38.885	41.923	45.642	48.290
27	11.808	12.879	14.573	16.151	18.114	36.741	40.113	43.195	46.963	49.645
28	12.461	13.565	15.308	16.928	18.939	37.916	41.337	44.461	48.278	50.993
29	13.121	14.256	16.047	17.708	19.768	39.087	42.557	45.722	49.588	52.336
30	13.787	14.953	16.791	18.493	20.599	40.256	43.773	46.979	50.892	53.672
40	20.707	22.164	24.433	26.509	29.051	51.805	55.758	59.342	63.691	66.766
50	27.991	29.707	32.357	34.764	37.689	63.167	67.505	71.420	76.154	79.490
60	35.534	37.485	40.482	43.188	46.459	74.397	79.082	83.298	88.379	91.952
70	43.275	45.442	48.758	51.739	55.329	85.527	90.531	95.023	100.425	104.215
80	51.172	53.540	57.153	60.391	64.278	96.578	101.879	106.629	112.329	116.321
90	59.196	61.754	65.647	69.126	73.291	107.565	113.145	118.136	124.116	128.299
100	67.328	70.065	74.222	77.929	82.358	118.498	124.342	129.561	135.807	140.169

A t-table shows the t-score corresponding to a certain confidence level and degrees of freedom. For example, 1.119 is in column $t_{.85}$ and row with degrees of freedom 7. This means that the t-score corresponding to the 85th percentile on the t-distribution with 7 degrees of freedom is 1.119.

t Table

cum. prob	$t_{.50}$	$t_{.75}$	$t_{.80}$	$t_{.85}$	$t_{.90}$	$t_{.95}$	$t_{.975}$	$t_{.99}$	$t_{.995}$	$t_{.999}$	$t_{.9995}$
one-tail	**0.50**	**0.25**	**0.20**	**0.15**	**0.10**	**0.05**	**0.025**	**0.01**	**0.005**	**0.001**	**0.0005**
two-tails	**1.00**	**0.50**	**0.40**	**0.30**	**0.20**	**0.10**	**0.05**	**0.02**	**0.01**	**0.002**	**0.001**
df											
1	0.000	1.000	1.376	1.963	3.078	6.314	12.71	31.82	63.66	318.31	636.62
2	0.000	0.816	1.061	1.386	1.886	2.920	4.303	6.965	9.925	22.327	31.599
3	0.000	0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	10.215	12.924
4	0.000	0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	7.173	8.610
5	0.000	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	5.893	6.869
6	0.000	0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	5.208	5.959
7	0.000	0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	4.785	5.408
8	0.000	0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	4.501	5.041
9	0.000	0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	4.297	4.781
10	0.000	0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	4.144	4.587
11	0.000	0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	4.025	4.437
12	0.000	0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	3.930	4.318
13	0.000	0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	3.852	4.221
14	0.000	0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	3.787	4.140
15	0.000	0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	3.733	4.073
16	0.000	0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	3.686	4.015
17	0.000	0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.646	3.965
18	0.000	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.610	3.922
19	0.000	0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.579	3.883
20	0.000	0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.552	3.850
21	0.000	0.686	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.527	3.819
22	0.000	0.686	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.505	3.792
23	0.000	0.685	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.485	3.768
24	0.000	0.685	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.467	3.745
25	0.000	0.684	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.450	3.725
26	0.000	0.684	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.435	3.707
27	0.000	0.684	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.421	3.690
28	0.000	0.683	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.408	3.674
29	0.000	0.683	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.396	3.659
30	0.000	0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.385	3.646
40	0.000	0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	3.307	3.551
60	0.000	0.679	0.848	1.045	1.296	1.671	2.000	2.390	2.660	3.232	3.460
80	0.000	0.678	0.846	1.043	1.292	1.664	1.990	2.374	2.639	3.195	3.416
100	0.000	0.677	0.845	1.042	1.290	1.660	1.984	2.364	2.626	3.174	3.390
1000	0.000	0.675	0.842	1.037	1.282	1.646	1.962	2.330	2.581	3.098	3.300
z	0.000	0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.090	3.291
	0%	50%	60%	70%	80%	90%	95%	98%	99%	99.8%	99.9%
	Confidence Level										

A z-score table shows the percentage of values (usually a decimal figure) to the left of a given z-score on a standard normal distribution.

z	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
+0	.50000	.50399	.50798	.51197	.51595	.51994	.52392	.52790	.53188	.53586
+0.1	.53983	.54380	.54776	.55172	.55567	.55966	.56360	.56749	.57142	.57535
+0.2	.57926	.58317	.58706	.59095	.59483	.59871	.60257	.60642	.61026	.61409
+0.3	.61791	.62172	.62552	.62930	.63307	.63683	.64058	.64431	.64803	.65173
+0.4	.65542	.65910	.66276	.66640	.67003	.67364	.67724	.68082	.68439	.68793
+0.5	.69146	.69497	.69847	.70194	.70540	.70884	.71226	.71566	.71904	.72240
+0.6	.72575	.72907	.73237	.73565	.73891	.74215	.74537	.74857	.75175	.75490
+0.7	.75804	.76115	.76424	.76730	.77035	.77337	.77637	.77935	.78230	.78524
+0.8	.78814	.79103	.79389	.79673	.79955	.80234	.80511	.80785	.81057	.81327
+0.9	.81594	.81859	.82121	.82381	.82639	.82894	.83147	.83398	.83646	.83891
+1	.84134	.84375	.84614	.84849	.85083	.85314	.85543	.85769	.85993	.86214
+1.1	.86433	.86650	.86864	.87076	.87286	.87493	.87698	.87900	.88100	.88298
+1.2	.88493	.88686	.88877	.89065	.89251	.89435	.89617	.89796	.89973	.90147
+1.3	.90320	.90490	.90658	.90824	.90988	.91149	.91308	.91466	.91621	.91774
+1.4	.91924	.92073	.92220	.92364	.92507	.92647	.92785	.92922	.93056	.93189
+1.5	.93319	.93448	.93574	.93699	.93822	.93943	.94062	.94179	.94295	.94408
+1.6	.94520	.94630	.94738	.94845	.94950	.95053	.95154	.95254	.95352	.95449
+1.7	.95543	.95637	.95728	.95818	.95907	.95994	.96080	.96164	.96246	.96327
+1.8	.96407	.96485	.96562	.96638	.96712	.96784	.96856	.96926	.96995	.97062
+1.9	.97128	.97193	.97257	.97320	.97381	.97441	.97500	.97558	.97615	.97670
+2	.97725	.97778	.97831	.97882	.97932	.97982	.98030	.98077	.98124	.98169
+2.1	.98214	.98257	.98300	.98341	.98382	.98422	.98461	.98500	.98537	.98574
+2.2	.98610	.98645	.98679	.98713	.98745	.98778	.98809	.98840	.98870	.98899
+2.3	.98928	.98956	.98983	.99010	.99036	.99061	.99086	.99111	.99134	.99158
+2.4	.99180	.99202	.99224	.99245	.99266	.99286	.99305	.99324	.99343	.99361
+2.5	.99379	.99396	.99413	.99430	.99446	.99461	.99477	.99492	.99506	.99520
+2.6	.99534	.99547	.99560	.99573	.99585	.99598	.99609	.99621	.99632	.99643
+2.7	.99653	.99664	.99674	.99683	.99693	.99702	.99711	.99720	.99728	.99736
+2.8	.99744	.99752	.99760	.99767	.99774	.99781	.99788	.99795	.99801	.99807
+2.9	.99813	.99819	.99825	.99831	.99836	.99841	.99846	.99851	.99856	.99861
+3	.99865	.99869	.99874	.99878	.99882	.99886	.99889	.99893	.99896	.99900
+3.1	.99903	.99906	.99910	.99913	.99916	.99918	.99921	.99924	.99926	.99929
+3.2	.99931	.99934	.99936	.99938	.99940	.99942	.99944	.99946	.99948	.99950
+3.3	.99952	.99953	.99955	.99957	.99958	.99960	.99961	.99962	.99964	.99965
+3.4	.99966	.99968	.99969	.99970	.99971	.99972	.99973	.99974	.99975	.99976
+3.5	.99977	.99978	.99978	.99979	.99980	.99981	.99981	.99982	.99983	.99983
+3.6	.99984	.99985	.99985	.99986	.99986	.99987	.99987	.99988	.99988	.99989
+3.7	.99989	.99990	.99990	.99990	.99991	.99991	.99992	.99992	.99992	.99992
+3.8	.99993	.99993	.99993	.99994	.99994	.99994	.99994	.99995	.99995	.99995
+3.9	.99995	.99995	.99996	.99996	.99996	.99996	.99996	.99996	.99997	.99997
+4	.99997	.99997	.99997	.99997	.99997	.99997	.99998	.99998	.99998	.99998

A z-score table shows the percentage of values (usually a decimal figure) to the left of a given z-score on a standard normal distribution.

z	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-0	.50000	.49601	.49202	.48803	.48405	.48006	.47608	.47210	.46812	.46414
-0.1	.46017	.45620	.45224	.44828	.44433	.44034	.43640	.43251	.42858	.42465
-0.2	.42074	.41683	.41294	.40905	.40517	.40129	.39743	.39358	.38974	.38591
-0.3	.38209	.37828	.37448	.37070	.36693	.36317	.35942	.35569	.35197	.34827
-0.4	.34458	.34090	.33724	.33360	.32997	.32636	.32276	.31918	.31561	.31207
-0.5	.30854	.30503	.30153	.29806	.29460	.29116	.28774	.28434	.28096	.27760
-0.6	.27425	.27093	.26763	.26435	.26109	.25785	.25463	.25143	.24825	.24510
-0.7	.24196	.23885	.23576	.23270	.22965	.22663	.22363	.22065	.21770	.21476
-0.8	.21186	.20897	.20611	.20327	.20045	.19766	.19489	.19215	.18943	.18673
-0.9	.18406	.18141	.17879	.17619	.17361	.17106	.16853	.16602	.16354	.16109
-1	.15866	.15625	.15386	.15151	.14917	.14686	.14457	.14231	.14007	.13786
-1.1	.13567	.13350	.13136	.12924	.12714	.12507	.12302	.12100	.11900	.11702
-1.2	.11507	.11314	.11123	.10935	.10749	.10565	.10383	.10204	.10027	.09853
-1.3	.09680	.09510	.09342	.09176	.09012	.08851	.08692	.08534	.08379	.08226
-1.4	.08076	.07927	.07780	.07636	.07493	.07353	.07215	.07078	.06944	.06811
-1.5	.06681	.06552	.06426	.06301	.06178	.06057	.05938	.05821	.05705	.05592
-1.6	.05480	.05370	.05262	.05155	.05050	.04947	.04846	.04746	.04648	.04551
-1.7	.04457	.04363	.04272	.04182	.04093	.04006	.03920	.03836	.03754	.03673
-1.8	.03593	.03515	.03438	.03362	.03288	.03216	.03144	.03074	.03005	.02938
-1.9	.02872	.02807	.02743	.02680	.02619	.02559	.02500	.02442	.02385	.02330
-2	.02275	.02222	.02169	.02118	.02068	.02018	.01970	.01923	.01876	.01831
-2.1	.01786	.01743	.01700	.01659	.01618	.01578	.01539	.01500	.01463	.01426
-2.2	.01390	.01355	.01321	.01287	.01255	.01222	.01191	.01160	.01130	.01101
-2.3	.01072	.01044	.01017	.00990	.00964	.00939	.00914	.00889	.00866	.00842
-2.4	.00820	.00798	.00776	.00755	.00734	.00714	.00695	.00676	.00657	.00639
-2.5	.00621	.00604	.00587	.00570	.00554	.00539	.00523	.00508	.00494	.00480
-2.6	.00466	.00453	.00440	.00427	.00415	.00402	.00391	.00379	.00368	.00357
-2.7	.00347	.00336	.00326	.00317	.00307	.00298	.00289	.00280	.00272	.00264
-2.8	.00256	.00248	.00240	.00233	.00226	.00219	.00212	.00205	.00199	.00193
-2.9	.00187	.00181	.00175	.00169	.00164	.00159	.00154	.00149	.00144	.00139
-3	.00135	.00131	.00126	.00122	.00118	.00114	.00111	.00107	.00104	.00100
-3.1	.00097	.00094	.00090	.00087	.00084	.00082	.00079	.00076	.00074	.00071
-3.2	.00069	.00066	.00064	.00062	.00060	.00058	.00056	.00054	.00052	.00050
-3.3	.00048	.00047	.00045	.00043	.00042	.00040	.00039	.00038	.00036	.00035
-3.4	.00034	.00032	.00031	.00030	.00029	.00028	.00027	.00026	.00025	.00024
-3.5	.00023	.00022	.00022	.00021	.00020	.00019	.00019	.00018	.00017	.00017
-3.6	.00016	.00015	.00015	.00014	.00014	.00013	.00013	.00012	.00012	.00011
-3.7	.00011	.00010	.00010	.00010	.00009	.00009	.00008	.00008	.00008	.00008
-3.8	.00007	.00007	.00007	.00006	.00006	.00006	.00006	.00005	.00005	.00005
-3.9	.00005	.00005	.00004	.00004	.00004	.00004	.00004	.00004	.00003	.00003
-4	.00003	.00003	.00003	.00003	.00003	.00003	.00002	.00002	.00002	.00002