

1. In Country X, teacher pay in 1980 was \$25.5 thousand and has increased by approximately \$8 thousand per year since then.
 - (i) Complete the table below to help find an expression that stands for the teacher pay (in thousands of dollars) at t years since 1980. Show the arithmetic to help you see a pattern.
 - (ii) Evaluate the expression that you found in part (i) for $t = 20$. What does your result mean in this situation?

Numbers of Years and Teacher Pay

Years	Teacher Pay
Since 1980	(thousands of dollars)
0	
1	
2	
3	
4	
t	

Practice MORE: **Section 7.3, page 471 #71, 73, 75**

Identify the sampling technique used: stratified, cluster, convenience, systematic or simple random.

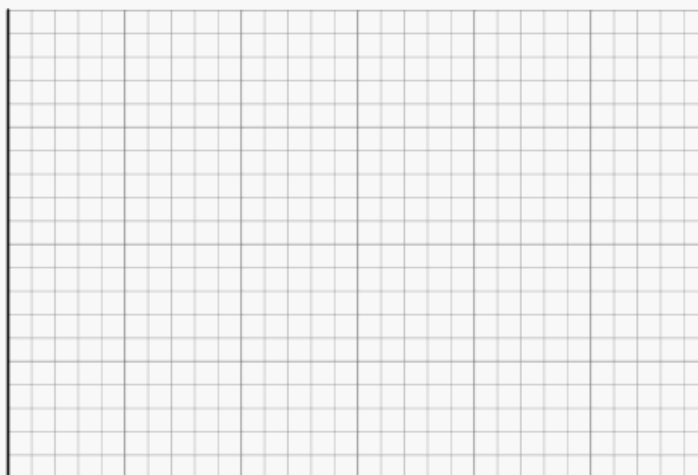
2. Thirty-five sophomores, 43 juniors and 60 seniors are randomly selected from 500 sophomores, 422 juniors and 323 seniors at a certain high school.
3. At a local community college, five statistics classes are randomly selected out of 20 and all of the students from each class are interviewed.
4. To ensure customer satisfaction, every 15th phone call received by customer service will be monitored.
5. A researcher randomly selects and interviews fifty male and fifty female teachers.
6. A community college student interviews everyone in a particular statistics class to determine the percentage of students that own a car.
7. Based on 10,500 responses from 37,500 questionnaires sent to its alumni, a major university estimated that the annual salary of its alumni was \$77,500 per year.
8. A lobbyist for a major aerospace firm assigns a number to each legislator and then uses a computer to randomly generate ten numbers. The lobbyist contacts the legislators corresponding to these numbers.

Practice MORE: **Section 2.2, page 107 #5-18 all**

9. The results of a survey about a recent judicial appointment are given in the table below. Construct a column chart.

Practice MORE: Section 3.1, page 142 #33,37

Response	Frequency
Strongly Favor	28
Favor	22
Neutral	16
Oppose	32
Strongly Oppose	102



10. In a survey, 26 voters were asked their ages. The results are shown below. Construct a histogram to represent the data (with 5 classes beginning with a lower class limit of 10 and a class width of 20. Don't forget to label the axes!

Practice MORE: Section 3.4, page 187 #21, 23

43 56 28 63 67 66 52 48 37 51 40 60 62
66 45 11 35 49 32 53 61 53 89 31 48 59

Lower Class Limits	Upper Class Limits	Frequency
10		

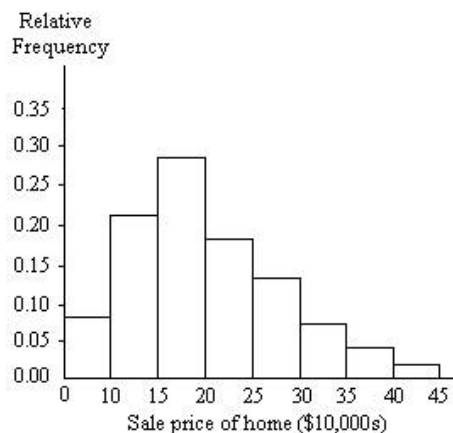


11. A relative frequency histogram for the sale prices of homes sold in one city during 2006 is shown below. Identify the overall shape of the distribution as either unimodal, bimodal, or multimodal and either right-skewed, left-skewed or symmetric.

Practice MORE: Section 3.4, page 187 #25

Modality:

Skewness:



12. For the data below, find the:

- Mean
- Median
- Mode
- Range

6, 11, 14, 27, 33, 45

Practice MORE: Section 4.1, page 231 #11, 13, 15, 17

13. Find the sample standard deviation for the given data. Round your final answer to one more decimal place than that used for the observations.

2, 6, 15, 9, 11, 32, 1, 4

$\underline{x}$	$x - \bar{x}$	$(x - \bar{x})^2$

Practice MORE: Section 4.2, page 252 #9, 11, 13, 21

14. The normal monthly precipitation (in inches) for August is listed for 20 different U.S. cities.
- Construct a stemplot for the data with the ones place as the stem, and the tenths place as the leaf.
 - Construct a boxplot for the data.

0.4 1.0 1.5 1.6 2.0
 2.2 2.4 2.7 3.4 3.4
 3.5 3.6 3.6 3.7 3.7
 3.9 4.1 4.2 4.2 7.0

Practice MORE: Section 3.3, page 167 #25, Section 4.3, page 268 #21, 23

15. A sample of 255 shoppers at a large suburban mall were asked two questions: (1) Did you see a television ad for the sale at department store X during the past 2 weeks? (2) Did you shop at department store X during the past 2 weeks? The responses to the questions are summarized in the table.

- What is the probability that a randomly selected shopper from the 245 questioned did not shop at department store X? Round to the nearest thousandth.
- What is the probability that a randomly selected shopper from the 245 questioned both shopped at department store X AND Saw the Ad? Round to the nearest thousandth.
- What is the probability that a randomly selected shopper from the 245 questioned shopped at department store X OR Saw the Ad? Round to the nearest thousandth.

	<u>Shopped at X</u>	<u>Did not Shop at X</u>	<u>TOTAL</u>
<u>Saw the Ad</u>	115	35	
<u>Did not see Ad</u>	45	50	
<u>TOTAL</u>			245

Practice MORE: Section 5.3, page 319 #31, 53

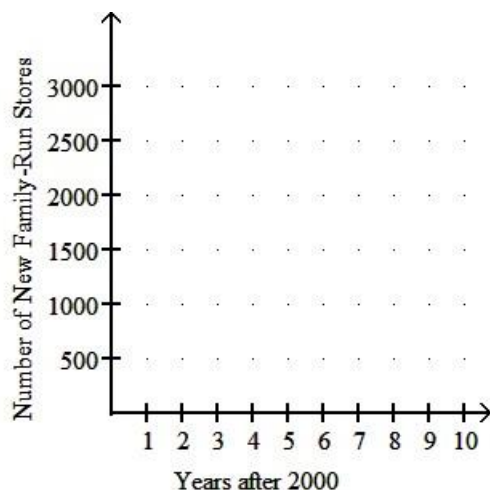
16. The following data represents the height (in inches) and weight (in pounds) of 9 randomly selected adults.
- Graph the data on a scattergram treating height as the independent variable.
 - Find an equation of the line containing the points (62, 124) and (70, 178).
 - Graph the line on the scattergram. Interpret the slope of the line.
 - Use the line to predict the weight of a person who is 66.7 inches tall. Round to the nearest pound.

Height, x (in.)	Weight, y (lb)
65	144
72	190
61	110
68	155
74	194
66	171
62	124
70	178
67	183



Practice MORE: Section 9.2, page 591 #21, 23

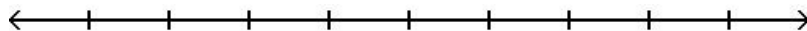
17. A study of grocery buying habits in a particular region stated that for the years 2001 - 2005, the annual number of new family-run grocery stores can be estimated by the model $y = -300x + 2510$ where x is the number of years after 2000.
- Graph this model by hand
 - Use the graph to predict the number of family-run stores that will start up in 2006.



Practice MORE: Section 8.3, page 539 #95, 97

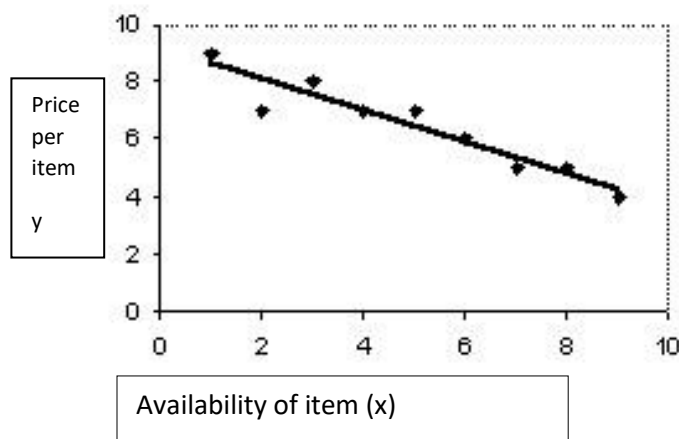
18. Solve the inequality and express the solution set in interval notation. Graph the solution set on the real number line.

$$\frac{1}{3}(x - 1) > \frac{1}{6}(7x - 5)$$



Practice MORE: Section 8.5, page 567 #55, 57, 59

19. Answer the question using the value of r and the given best-fit line on the scatter diagram.



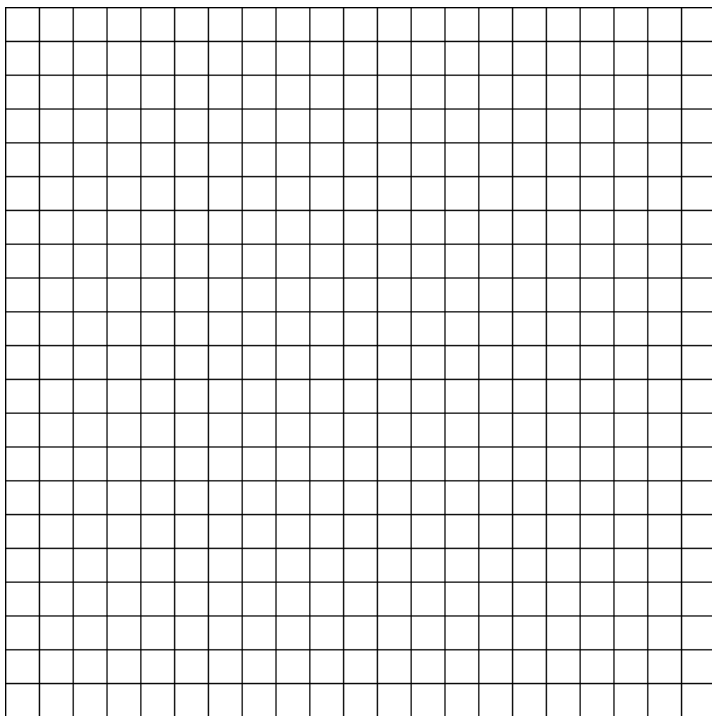
The scatter diagram and best-fit line show the data for price per item (y) and the availability of that item (x). The correlation coefficient r is -0.95 . Predict the price per item for an availability of 5.

Practice MORE: Section 6.3, page 413 #41, 43 (Use StatCrunch to get r)

20. A competency test has scores with a mean $\bar{x} = 69$ and a standard deviation of $s = 4$. Estimate the percentage of scores between 61 and 77. USE THE STANDARD NORMAL DISTRIBUTION TABLE!

Practice MORE: Section 5.4, page 340 #47, 49

21. Determine the slope and the y-intercept of the line $y = \frac{2}{5}x - 3$, and then graph the line.



Practice MORE: Section 7.3, page 471 #19-33 odd

22. Solve the equation $E = t \cdot \frac{s}{\sqrt{n}}$ for t

Practice MORE: Section 8.4, page 554 #43-53 odd

Standard Normal Distribution Table

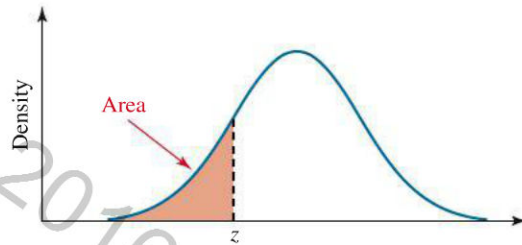


Table 1

Standard Normal Distribution										
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-3.4	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002
-3.3	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003
-3.2	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0005	0.0005
-3.1	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007
-3.0	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010
-2.9	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014
-2.8	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019
-2.7	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026
-2.6	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036
-2.5	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048
-2.4	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064
-2.3	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084
-2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110
-2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143
-2.0	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183
-1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
-1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
-1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367
-1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455
-1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559
-1.4	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681
-1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823
-1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985
-1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170
-1.0	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379
-0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611
-0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867
-0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148
-0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451
-0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776
-0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121
-0.3	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483
-0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859
-0.1	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247
-0.0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641

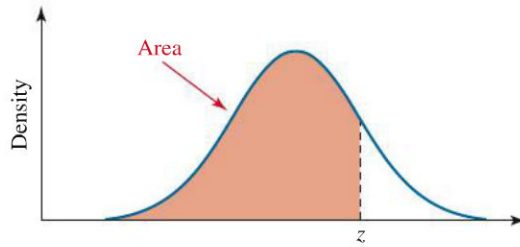


Table 1 (Continued)

Standard Normal Distribution										
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998