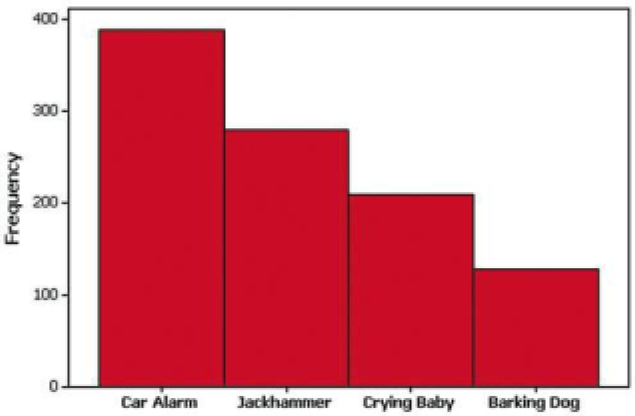
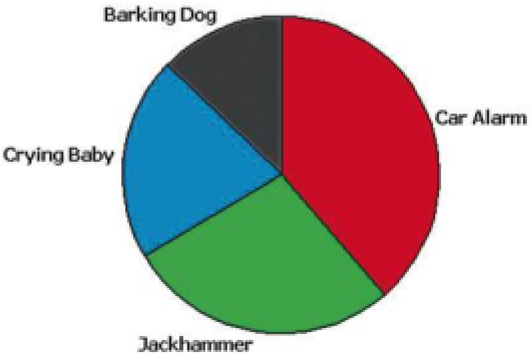
13. No. The distribution is not dramatically far from being a normal distribution with a bell shape, so there is not strong evidence against a normal distribution.

4	5
5	3335579
6	11167
7	1115568
8	4

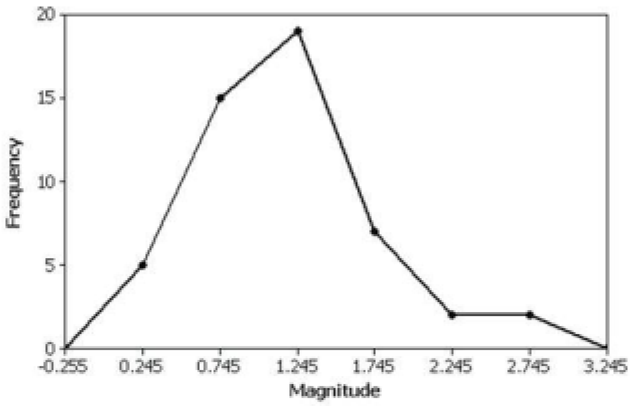
15.



17.



19. The frequency polygon appears to roughly approximate a normal distribution. The frequencies increase to a maximum and then tend to decrease, and the graph is symmetric with the left half being roughly a mirror image of the right half.



21. The vertical scale does not start at 0, so the difference is exaggerated. The graphs makes it appear that Obama got about twice as many votes as McCain, but Obama actually got about 69 million votes compared to 60 million for McCain.

23. China's oil consumption is 2.7 times (or roughly 3 times) that of the United States, but by using a larger barrel that is three times as wide and three times as tall (and also three times as deep) as the smaller barrel, the illustrator has made it appear that the larger barrel has a volume that is 27 times that of the smaller barrel. The actual ratio of U.S. consumption to China's consumption is roughly 3 to 1, but the illustration makes it appear to be 27 to 1.

25. The ages of actresses are lower than those of actors.

Actresses		Actors
9999999888887777666655554421	2	9
99888877655555555444333333222111000	3	00122224445566677778888999
9655322111110	4	000111111222222333344455556777788999
40	5	0112222346677
3110	6	000222
4	7	6
0	8	

Chapter 2: Quick Quiz

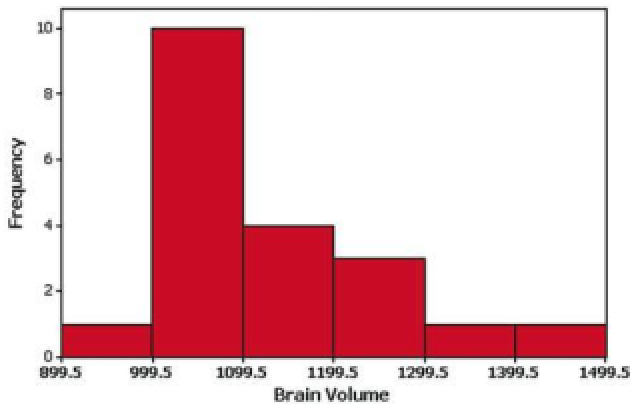
1. 1.00 2. –0.005 and 0.995 3. No
4. 61 min, 62 min, 62 min, 62 min, 62 min, 67 min, 69 min
5. No 6. Bar graph 7. Scatterplot
8. Pareto chart 9. The distribution of the data
10. The bars of the histogram start relatively low, increase to some maximum, and then decrease. Also, the histogram is symmetric with the left half being roughly a mirror image of the right half.

Chapter 2: Review Exercises

1.

Volume (cm^3)	Frequency
900–999	1
1000–1099	10
1100–1199	4
1200–1299	3
1300–1399	1
1400–1499	1

2. No, the distribution does not appear to be normal because the graph is not symmetric.



3. Although there are differences among the frequencies of the digits, the differences are not too extreme given the relatively small sample size, so the lottery appears to be fair.