Statistics: Chapter 1 Solutions

Lesson 1.1.1

1-1. a. Dot plot and scatterplot → numbers (quantitative).
Bar graph and two-way table → words (qualitative).

b. Yes, for the dot plot and scatterplot, averages such as bedtime, wake-up time, and average number of pets per person. All give information about their variables, whereas an average color, language, or type of pet as found on a bar graph or two-way table is nonsense.

c. They may be grouped in different ways, for example: categorical versus quantitative, bivariate versus univariate, or by their shape.

1-2. a. Answers may vary.

b. It has a strong positive bias because it comes from sources with an interest in you attending. Find sources that have no interest in your attendance like news articles, comparative surveys, or ratings of programs you are interested in.

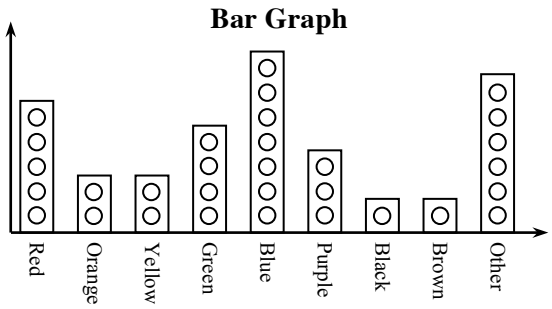
c. Answers will vary. By eliminating those colleges which do not meet your constraints like cost or competitiveness, and focusing on those with characteristics you prefer, e.g. large or small, public or private, you can make a manageable sample of schools to consider.

1-3. a. 3000 people

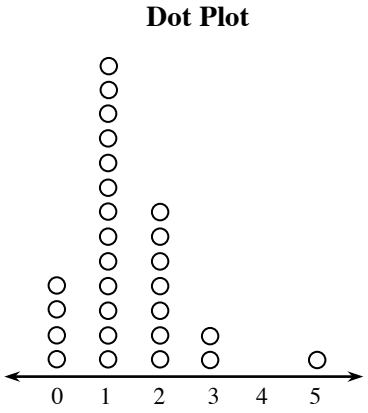
b. 42,000 people

c. 19,000 people came on the weekend, nearly half of the entire week's attendance.

1-4. See graph above right.



1-5. See dot plot below right.



1-6. Bar graph, the data is categorical and there is no order to it.

1-7. a. 3 in Jan., 2 in Feb., 1 in Apr., 6 in June, 2 in July, 2 in Sept., 4 in Oct.

b. $\frac{5}{20} = 25\%$ are in the winter. $\frac{15}{20} = 75\%$ are not in the winter.