Lesson 1.1.2

1-9. a. To add 42 to the plot, a 2 would be inserted in the right column to the left of 3. To add 102, new rows would be added for 8, 9, and 10 in the left column; then in the cell to the right of 10, 2 would be placed; the cells to the right of 8 and 9 would remain blank. The cell to the right of the 5 is blank because there is a gap. No data values greater than or equal to 50 and less than 60.

b. Results will depend on the class data.

c. Answers vary depending on the class data; Write statements that describe clusters and gaps in the data, values that are very much larger or smaller than most (also called "outliers"), what a "typical" piece of data is, how much the data varies, and overall general statements about how well the class estimates time.

1-10. a. Although the data is numeric and can be plotted on a number line, numerous pieces of data do not fall on each value, so the dot plot would be very flat and not very interesting to analyze.

b. Answers depend on data.

c. Answers depend on data.

1-11. a. If a student had both a dog and a cat, he or she might need two dots (one for both the "Dog" column and the "Cat" column. Observations with some other kind of pet were left out.

b. On the bar graph it is easier to compare the differences between categories. The Venn diagram enables students to compare overlapping categories.

c. Bar graphs are effective for representing categories that are mutually exclusive. Venn diagrams are best for visualizing information into categories that overlap.

d. The other table should be larger than 2×2, so it will not be possible to make a traditional Venn diagram.

e. The Venn diagram should have 3 variables and cannot be displayed in a two-dimensional, two-way table.

1-12. a. 16

b. 1

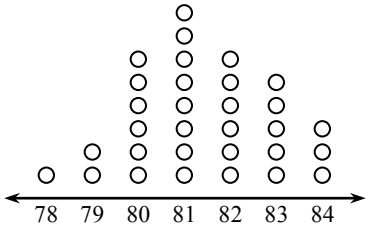
c. No. You can only tell frequency of the "stacks," not of individual numbers.

1-13. See diagram at right.

Key
1 | 2 means 12

1	2	7	**1**	**2**	**7**
2			**2**	**3**	
3			**3**	**4**	
4			**4**	**5**	**5**
5			**5**	**2**	**3**
6			**6**	**2**	**4**
7			**7**	**6**	**7**
8			**8**	**7**	**8**
9			**9**	**2**	

1-14. See dot plot at right. The data is numeric, discrete, and has order to it.



1-15. See the diagram at right. Descriptions will vary. Most families have between 3 and 9 members. No outliers are apparent.

1-16. Reasonable estimate: 12.5%. The darkly shaded portion appears to be about a fourth of the remaining 50%.