

Name: _____ Date _____ Period _____

1. What are the three measures of *spread*? _____, _____, _____

2a. What does the *range* measure? _____

b. What does the *inner quartile range* measure? _____

c. What does the *standard deviation* measure? _____

3a. If a set of data has a small *variance*, what does that tell you about the *standard deviation*?

b. How do you find *variance* given the *standard deviation*?

c. How do you find *standard deviation* given the *variance*?

4. The *variance* of 14 students' height (in inches) is computed to be 36.

What is the *standard deviation*? _____

5. What are the three measures of *center*? _____, _____, _____

6a. What does the *mean* measure? _____

b. What does the *median* measure? _____

c. What does the *mode* measure? _____

7. Why is the *mean* also called the *balance point*?

8a. If the graph of a set of data is *skewed to the right*, how does the *mean* compare to the *median*?

b. If the graph of a set of data is *skewed to the left*, how does the *mean* compare to the *median*?

9. The height of basketball players on a team are as follows:

Height (inches)	70	71	72	73	74	75
# of Players	1	2	6	9	9	3

a. What is the *mean* height? _____

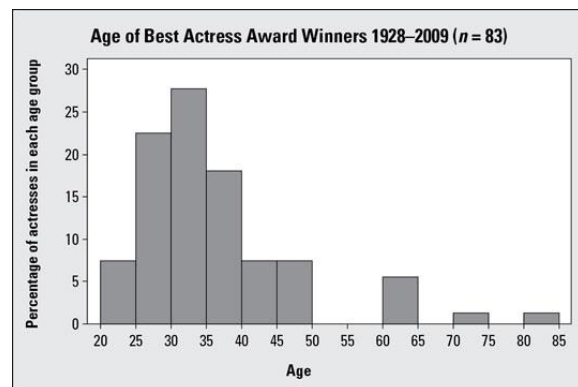
b. What is the *median* height? _____

c. What is the height's *mode*? _____

10. You have the following grades in your Statistics Honors class: 85, 73, 97, 100. You want to end the marking period with an average of 90. What grade do you need to earn on the last assessment?

11a. For this distribution, what would be the **best measure of center**? Explain.

b. Find the *center* of this distribution.



12. Here are the MATH SAT test scores of 10 randomly chosen students:

630 570 660 700 740 600 470 750 590 600

a. To make a *stemplot* of these scores, what *range of numbers* would you use for the *stems*?

b. Create the *stemplot* below.

13. What are the values used in the *five-number summary*?

14a. _____ percent of the scores in a distribution are between the *1st* & *4th* *quartile*.

b. _____ percent of the scores in a distribution are between the *1st* & *3^d* *quartile*.

c. _____ percent of the scores in a distribution are between the *1st* & *2nd* *quartile*.

- 15a. Using the data from the *dotplot* below, **construct** a *boxplot* on your graphing calculator and draw below.

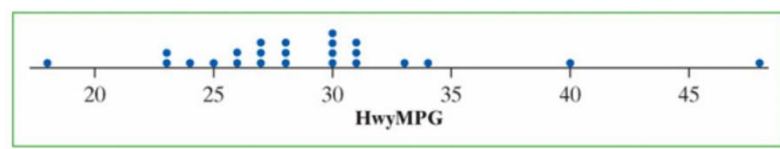


Figure 1.9 Dotplot displaying EPA estimates of highway gas mileage for model year 2012 midsize cars.

- b. Describe the *distribution*:

- c. What is the best *measure of center & spread*? Justify your reasoning.

16. When adding a constant to all values in a data set, describe how this will affect the:

a. *mean*: _____

b. *standard deviation*: _____

17. When multiplying a constant to all values in a data set, describe how this will affect the:

a. *mean*: _____

b. *standard deviation*: _____

18. The *five-number summary* for the length (mm) of yellow roses are:

Length of Yellow Roses: 34, 35, 36, 36.8, 38

- a. About what percent of roses are between 35 mm and 36.8 mm? _____
- b. About what percent of roses are between 34 mm and 36.8 mm? _____
- c. About what percent of roses are between 36.8 mm and 38 mm? _____

19. Below are *side-by-side boxplots* describing the number of texts messages sent in a 2-day period by males and females students.

Number of Texts Sent by Males & Females in a 2-Day Period

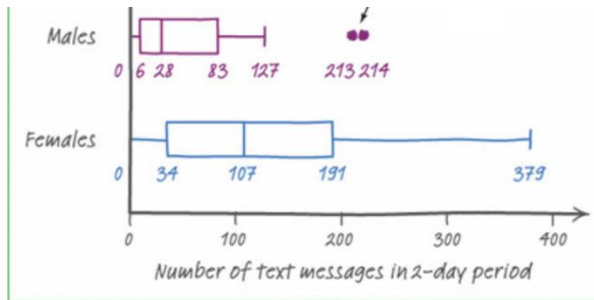


Figure 1.21 Parallel boxplots of the texting data.

Decide whether each statement is **true** or **false** about the *side-by-side boxplots* above.

- a. The *IQR* of female boxplot is over twice the *IQR* for the male boxplot. _____
- b. The **range** of the males boxplot is smaller than the *IQR* of the female boxplot. _____
- c. **75%** of the texts in the male distribution are longer than the *median* texts in the female distribution. _____
- d. The largest amount of texts in the female distribution is larger than **25%** of the texts in the male distribution. _____

20. What are the **two characteristics** that must be true to have a *valid density curve*?

1)

2)

21. Describe the *Empirical Rule* when the data lies within one, two, or three *standard deviations* in a *normal distribution*.

$\mu \pm 1\sigma =$ _____

$\mu \pm 2\sigma =$ _____

$\mu \pm 3\sigma =$ _____

22. What is the *mean* and *standard deviation* for a *standard normal curve*?

$\mu =$ _____

$\sigma =$ _____

23. You have a set of data that is $N(0,1)$. What percent of the data lies between -2 and 3?

