1. Mr. Hagan measured the height, in inches, of all of his male students.

57, 58, 58, 59, 59, 60, 62, 62, 62, 63, 63, 63, 65, 67, 71

(a) Find the following value based on the heights:

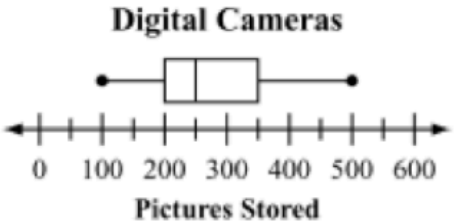
Min: Q1: Median: Q3: Max: IQR:

(b) Are there any outliers? Show your work. State whether you found an outlier or not. If yes, indicate which value is the outlier.

(c) What is the of the spread upper 75% of the data?

(d) Construct a box plot.

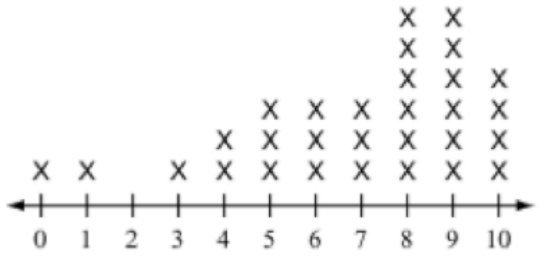
2. The box plot below shows the numbers of pictures that can be stored on different digital cameras



a) What is the median number of pictures that can be stored?

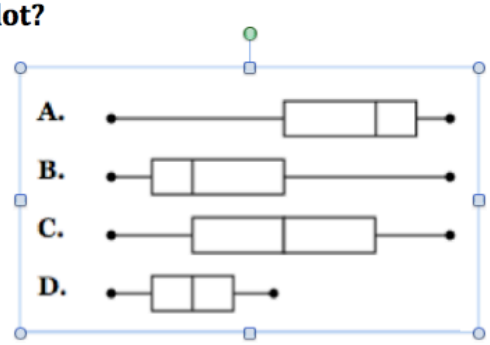
A. 250
B. 300
C. 350
D. 400

3. The dot plot shows the number of canned goods collected by each member of a club for a food drive.



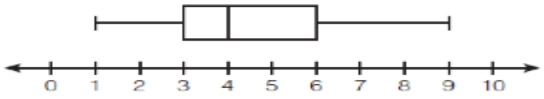
Number of Canned Goods Collected by Club Members

Which of the following box plot correctly represents the data in the dot plot?



4. A movie theater recorded the number of tickets sold daily for a popular movie during the month of June. The box-and-whisker plot shown below represents the data for the number of tickets sold, **in hundreds**.

Daily Attendance (hundreds of tickets sold)

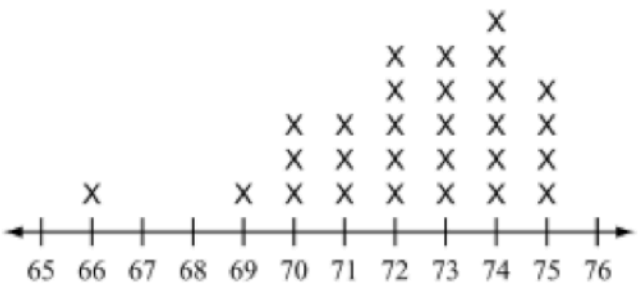


a) Which conclusion can be made using this box plot?
- **A.** The median is 600.
- **B.** The mean of the attendance is 400.
- **C.** The spread of the attendance is 300 to 600.
- **D.** Twenty-five percent of the attendance is between 300 and 400.

b) What is the best way to describe the shape of the data in the box plot to the left?
- **A.** Skewed Left
- **B.** Approximately Symmetrical
- **C.** Skewed Right
- **D.** Bimodal

c) The movie theater hired a marketing consultant that reviewed the data for their daily attendance. Here is what he said, "The typical number of tickets sold is 400, but typically varies from 300 to 600 tickets sold on a daily basis." **Do you agree or disagree with the consultant? Justify your answer**

5. The dot plot below shows the heigh of 28 basketball players in inches.

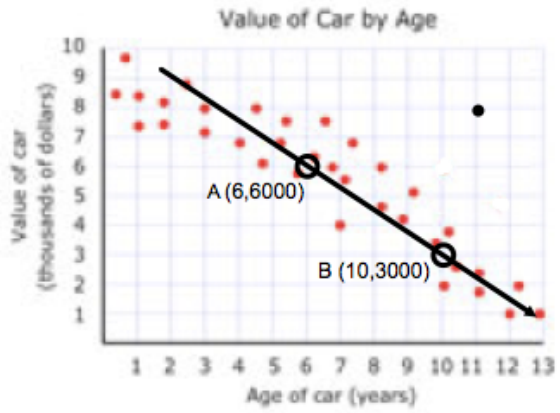


Height of Basketball Players (in inches)

Based on the dot plot, which of the following is true?

- **A.** The mean is greater than the mode
- **B.** The median is greater than the mode
- **C.** The mean is greater than the median
- **D.** The median is greater than the mean

7. The scatterplot below shows the value (in dollars) of a car vs age (in years).



(a) Describe the trend and correlation in the data in context to the problem.

(b) Circle the outlier in the data, and explain what it means in context to the problem.

(c) Use A and B to find the slope of the line of best fit line. Explain its meaning in the context of the problem.

(d) Find the y-intercept (*b*) using algebra. Explain its meaning in the context of the problem.

(e) Write an equation for this situation.

(f) Use the equation to predict how old the car will be if it is worth $500.

8. A survey was conducted to find how many hours students sleep the night before a test. The data is displayed below.

Hours of sleep	# of students
5	3
6	4
7	1
8	2
9	2
10	1

(a) What is the spread of the data?

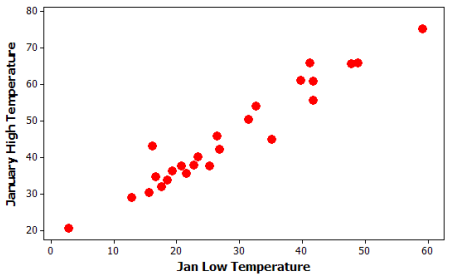
(b) What is mode?

(c) What is the median?

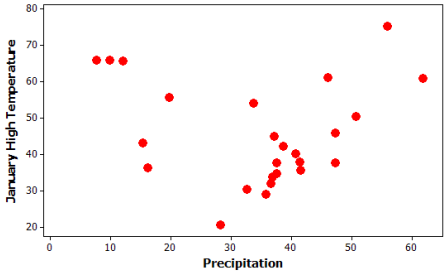
(d) Calculate the mean number of hours.

9. Weather data were recorded for a sample of 25 American cities in one year. Variables measured included:
   - January high temperature (in degrees Fahrenheit)
   - January low temperature (in degrees Fahrenheit)
   - Annual precipitation (in inches), **and**
   - Annual snow accumulation.

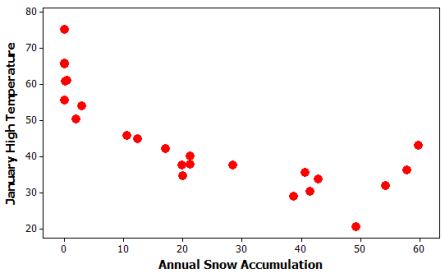
The relationships for three pairs of variables are shown in the graphs below (Jan. Low Temperature—Graph A; Precipitation—Graph B; Annual Snow Accumulation—Graph C).



Graph A



Graph B



Graph C

a. Which pair of variables will have a correlation coefficient closest to 0 ***(circle one)***?

i. Jan. high temperature and Jan. low temperature (Graph A)
ii. Jan. high temperature and precipitation (Graph B)
iii. Jan. high temperature and snow accumulation (Graph C)

Explain your choice.

b. Which of the above scatterplots would be best described as a strong nonlinear relationship? Explain your choice.

10. The stem and leaf plot shows the number of automobiles sold at a dealership each month over one year.

0	3
1	0 0 2
2	3 8 9
3	0 2 5 5
4	1

Key: 2|8 = 28

(a) What is the range of the data?

(b) What is mode?

(c) What is the median?

(d) Calculate the mean number of automobiles.

11. Twenty-two students were surveyed about the number of days they played outside in one month. The results of this survey are shown below.

3, 3, 4, 4, 4, 4, 5, 5, 5, 6, 6, 6, 6, 6, 7, 7, 7, 8, 9, 9, 10, 11

a. On the grid below, create a **dot plot** based on the data.

b. Identify the typical number of days spent outside by the twenty-five students.

c. Use the statistical features of your calculator to find the standard deviation of the data set (round to the nearest hundredth).

Standard Deviation: _____

d. Interpret Standard Deviation in the context of the question.