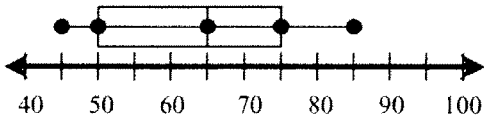
Keystone Practice #3

Data Analysis **Name:** _____

1. Which number is *closest* to the median of the data set represented by the box-and-whisker plot below?



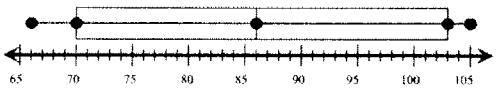
A. 75 B. 65 C. 60 D. 50

2. The following is an ordered list of monthly normal high temperatures for Phoenix, AZ.

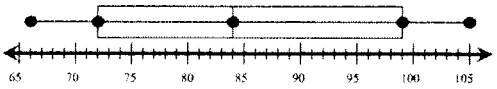
66, 66, 70, 74, 75, 84, 88, 93, 99, 103, 103, 105

Which box-and-whisker plot best displays the data?

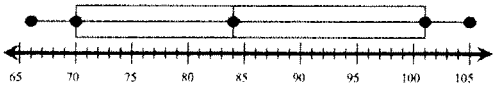
A.



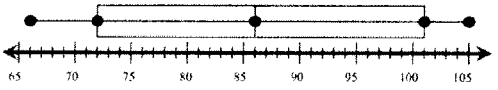
B.



C.



D.



3. The stem-and-leaf plot below shows test scores for 25 students.

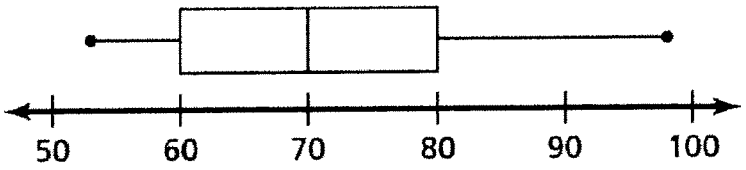
Test Scores

Stem	Leaf
5	3 5 7
6	2 4 6 8 9
7	1 3 3 5 5 5 6 7 8
8	1 1 3 5 8
9	1 2 8

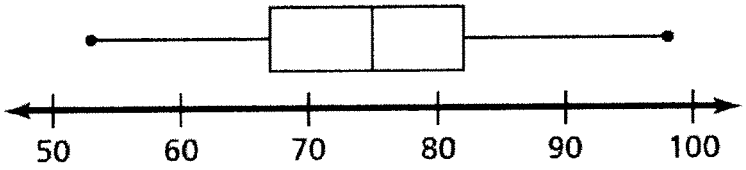
KEY
5|3 = 53

Which box-and-whisker plot correctly displays the data in the stem-and-leaf-plot?

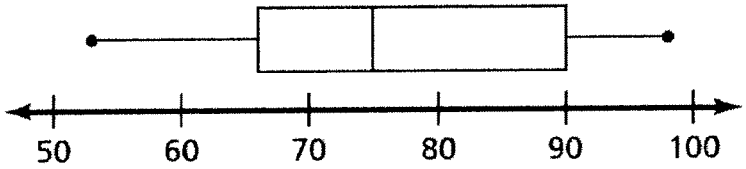
A.



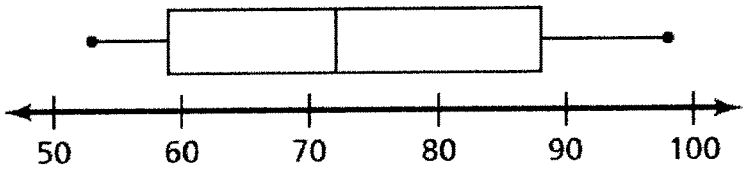
B.



C.

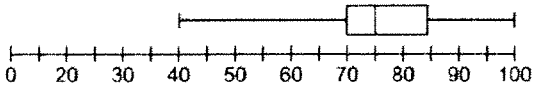


D.



4. The high temperatures for 50 cities are shown in the box-and-whisker plot.

High Temperature for 50 Cities



Temperature (°F)

Which statement is true about this set of data?

A. The lowest high temperature is 70° F.

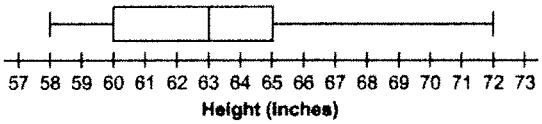
B. Half the cities had a high temperature of 75° F or greater

C. The mean of the high temperatures is approximately 75° F.

D. More cities had high temperatures between 40° F and 70° F than between 84° F and 100° F.

5. The box-and-whisker plot below shows the heights, in inches, of the students in a 7th grade class.

Heights of 7th Grade Students



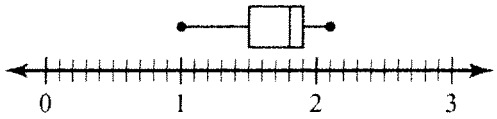
What percentage of the heights of the students is between 60 and 65 inches?

A. 25% B. 50% C. 62.5% D. 75%

6. A researcher collected data on the final heights of corn plants. The data were collected from one farm over four growing seasons. He drew box-and-whisker plots to represent the data he collected for each growing season.

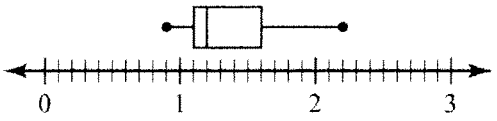
Which of the following box-and-whisker plots shows the *greatest* median final height?

A.



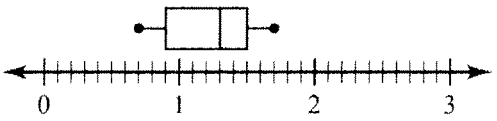
Season 1 Final Heights (in meters)

B.



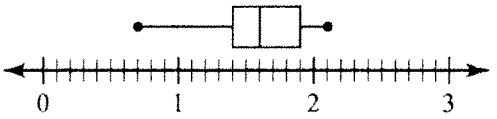
Season 2 Final Heights (in meters)

C.



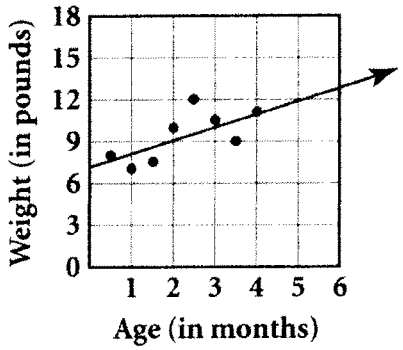
Season 3 Final Heights (in meters)

D.



Season 4 Final Heights (in meters)

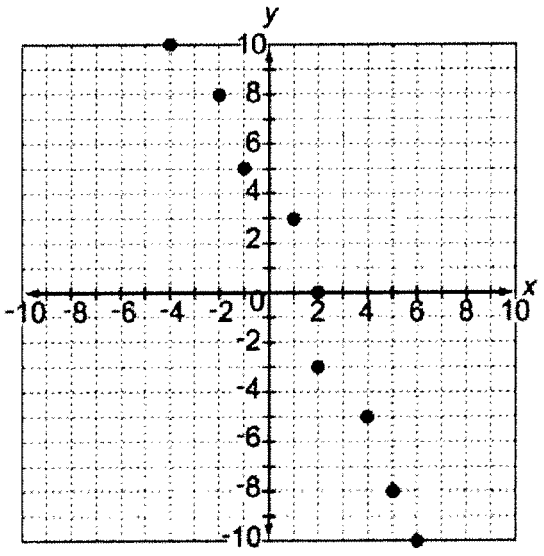
7. Thomas recorded the weight, in pounds, of several infants of different ages for his science experiment. He made a scatterplot of the data, as shown in the figure below.



He drew a line of best fit through the points. According to his line of best fit, at approximately what age, in months, should a typical infant weigh 17 pounds?

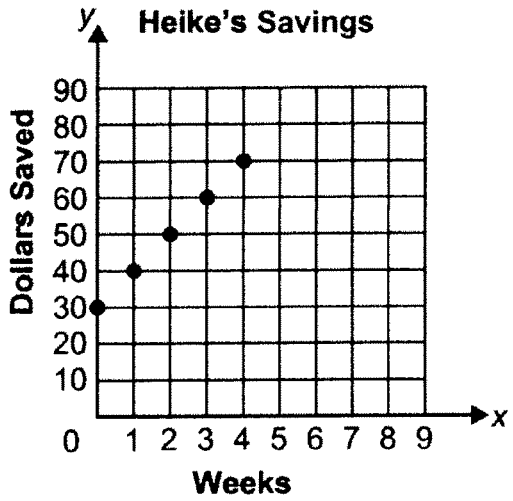
A. 6 months
B. 10 months
C. 13 months
D. 16 months

8. Which equation defines a line that best fits all the points on the graph?



A. $y = \frac{x}{2} + 3$
B. $y = -2x - 3$
C. $y = 2x - 3$
D. $y = -2x + 3$

9. Heike is saving money to purchase a surfboard that costs $250. She began with $30 and saved an additional $10 every week, as shown on the graph below.



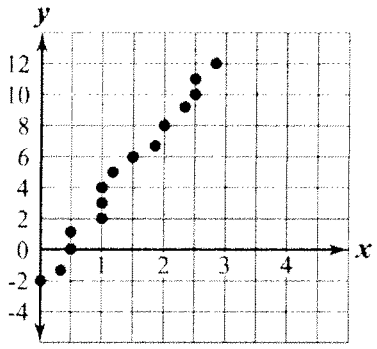
If Heike continues to save at the same rate, on which week will she have saved enough money to purchase the surfboard?

A. Week 8
B. Week 15
C. Week 22
D. Week 30

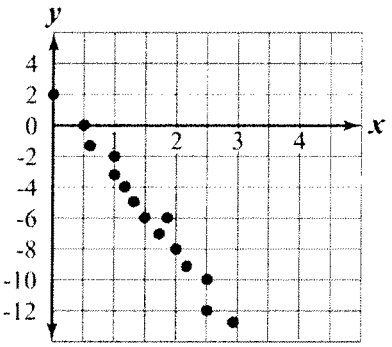
10. Which of the following scatterplots is most likely to have a line of best fit represented by the equation below?

$y = -5x + 2$

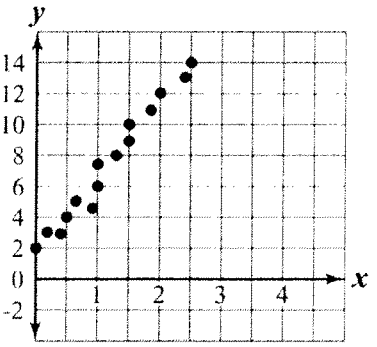
A.



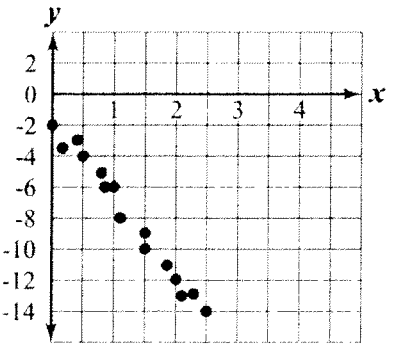
B.



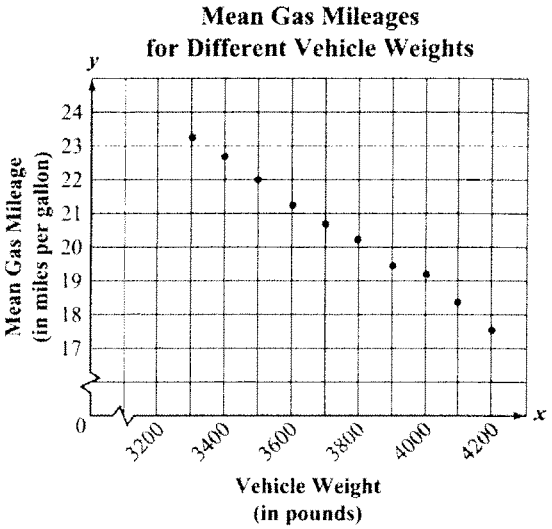
C.



D.



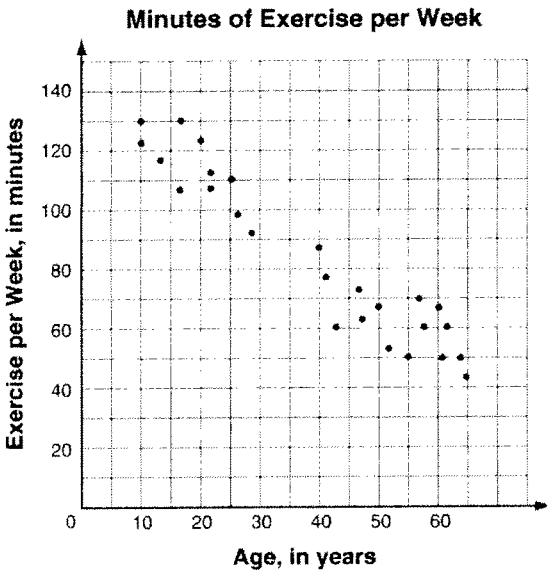
11. The scatterplot below shows the mean gas mileages obtained over a one-year period by 10 vehicles of different weights.



Which of the following most closely approximates the slope of the line of best fit for the data in the scatterplot?

A. -150 B. $-\frac{1}{150}$ C. $\frac{1}{150}$ D. 150

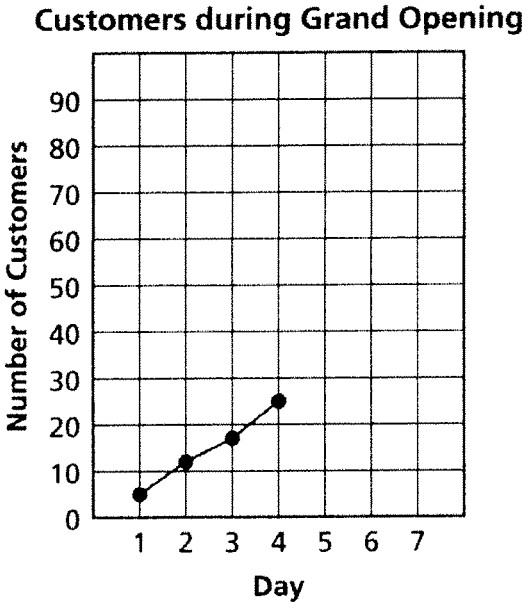
12. A survey was taken asking participants their age and the number of minutes they exercise per week. The results of the survey are shown in the scatterplot below.



The data for people who are 30 to 39 years of age are not displayed. Based on the scatterplot, how many minutes would a 30- to 39-year-old person be expected to exercise?

A. 40–60 minutes
B. 60–80 minutes
C. 80–100 minutes
D. 100–120 minutes

13. The following line graph shows the numbers of customers that went to a pizza restaurant during the first 4 days of its grand opening week.



Based upon the trend in the line graph, which prediction about the number of customers on day 7 is justified?

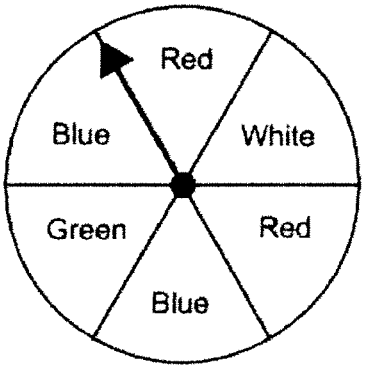
A. The number of customers increases by less than 10 each day, so the number of customers on day 7 should be approximately 43.

B. The number of customers increases by less than 10 each day, so the number of customers on day 7 should be approximately 58.

C. The total number of customers increased by 20 from day 1 to day 4, so the number of customers on day 7 should be approximately 65.

D. The total number of customers increased by 20 from day 1 to day 4, so the number of customers on day 7 should be approximately 85.

14. Robin has the spinner and the quarter shown.



She spins the spinner once and flips the quarter once.

What is the probability that the spinner will and on red and that the quarter will land heads up?

A. $\frac{1}{12}$ B. $\frac{1}{6}$ C. $\frac{1}{3}$ D. $\frac{1}{2}$

15. A homeroom class has 25 students. The table shows the probabilities that a student selected randomly from the class participates in certain activities.

Activity	Student Council	Lacrosse	Student Council or Lacrosse
Probability	0.20	0.32	0.44

How many students in the class participate in both the student council and lacrosse?

A. 1 B. 2 C. 13 D. 14

16. **Use the table below to answer the following question.**

Josh's Free Throws

Number Made	Number Missed
28	12

The table displays the number of free throws that Josh has made and the number he has missed this season. What is the experimental probability that Josh will make *both* of his next *two* free throws?

A. 35 percent B. 49 percent

C. 56 percent D. 70 percent

17. The chart below shows the approximate distances of various towns and cities from Williams.

Town or City	Distance (miles)
Ash Fork	19
Drake	36
Flagstaff	28
Red Lake	9
Seligman	42
Kingman	117
Parks	14

Which is *closest* to the mean of the seven distances listed in the chart?

A. 9 miles B. 28 miles

C. 38 miles D. 40 miles

18. The stem-and-leaf plot represents test scores from two science classes.

Mr. Vega		Ms. Watson
	10	0
4, 3, 1	9	1, 4
8, 5, 4	8	2, 4, 5, 6, 7
8, 7, 6, 0	7	0, 0, 2, 9
9, 6, 6	6	3, 6, 8
4, 2	5	

Key
10 | 0 means 100

Which statement about the data is true?

A. The median of Ms. Watson's scores is less than the median of Mr. Vega's scores.

B. The mode of Ms. Watson's scores is less than the mode of Mr. Vega's scores.

C. The mean of Mr. Vega's scores is greater than the mean of Ms. Watson's scores.

D. The range of Mr. Vega's scores is greater than the range of Ms. Watson's scores.

Keystone Practice #3 Data Analysis 11/13/2013

1.
Answer: B

2.
Answer: D

3.
Answer: B

4.
Answer: B

5.
Answer: B

6.
Answer: A

7.
Answer: B

8.
Answer: D

9.
Answer: C

10.
Answer: B

11.
Answer: B

12.
Answer: C

13.
Answer: A

14.
Answer: B

15.
Answer: B

16.
Answer: B

17.
Answer: C

18.
Answer: D