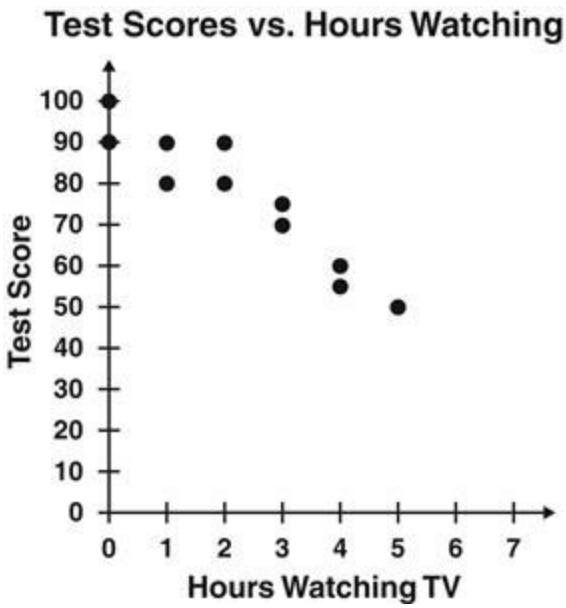
TEST NAME: **8 Math Scatterplots V2**
TEST ID: **39408**
GRADE: **08**
SUBJECT: **Mathematics**
TEST CATEGORY: **My Classroom (Individual Teacher Assessments)**

Student: _____

Class: _____

Date: _____

1. **The scatterplot below shows the relationship between the number of hours spent watching television the day before a test and the test scores earned by a group of students.**



Which equation represents the line of best fit for the scatterplot?

A. $y = -10x + 50$

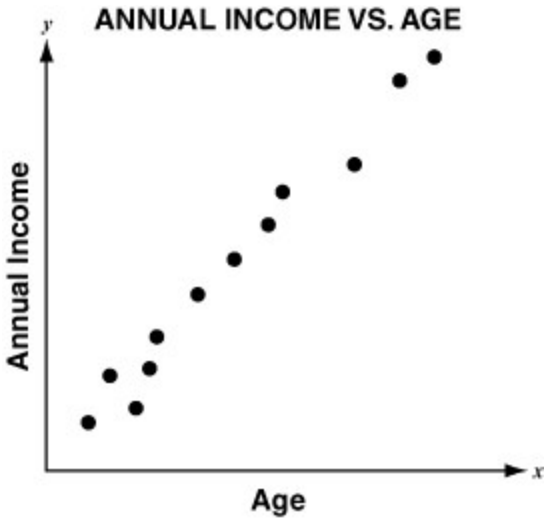
B. $y = -10x + 100$

C. $y = 10x - 50$

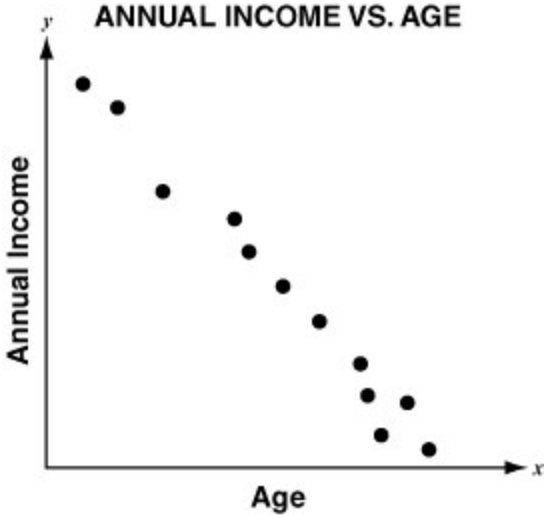
D. $y = 10x - 100$

2. There is a positive linear correlation between the annual income and the age of a person before retirement. Which scatter plot **best** represents this situation?

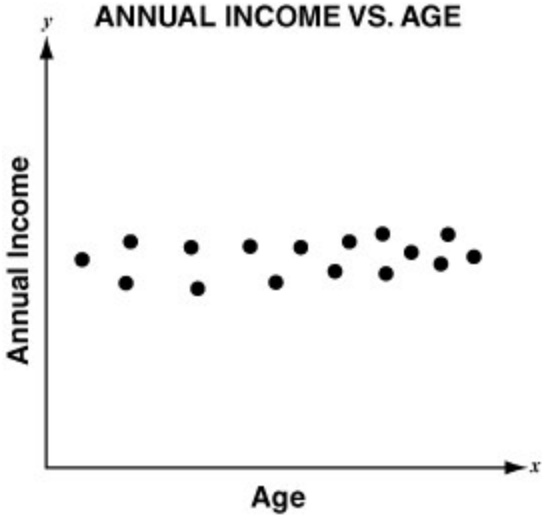
A.


ANNUAL INCOME VS. AGE
y
Annual Income
x
Age

B.


ANNUAL INCOME VS. AGE
y
Annual Income
x
Age

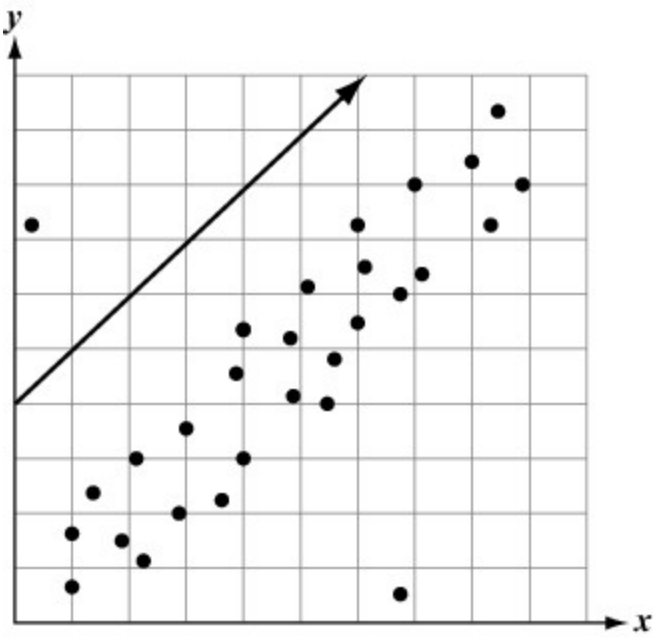
C.


ANNUAL INCOME VS. AGE
y
Annual Income
x
Age

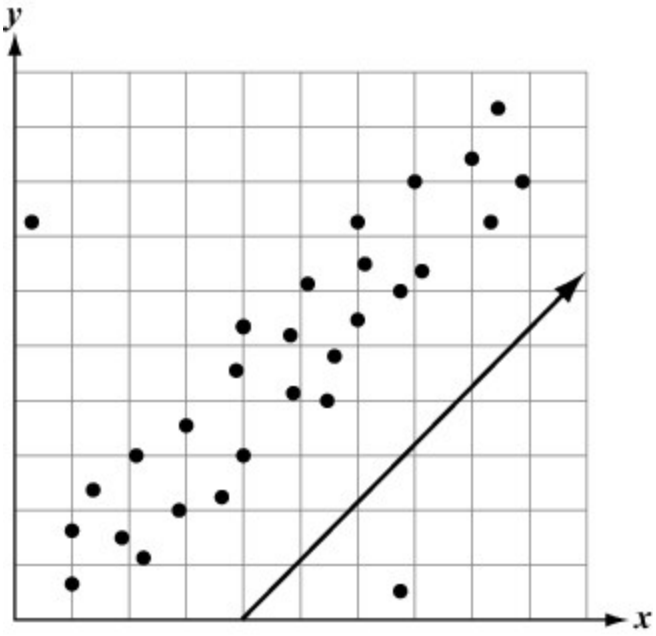
D.

3. Which scatter plot shows the line that **best** fits this data set?

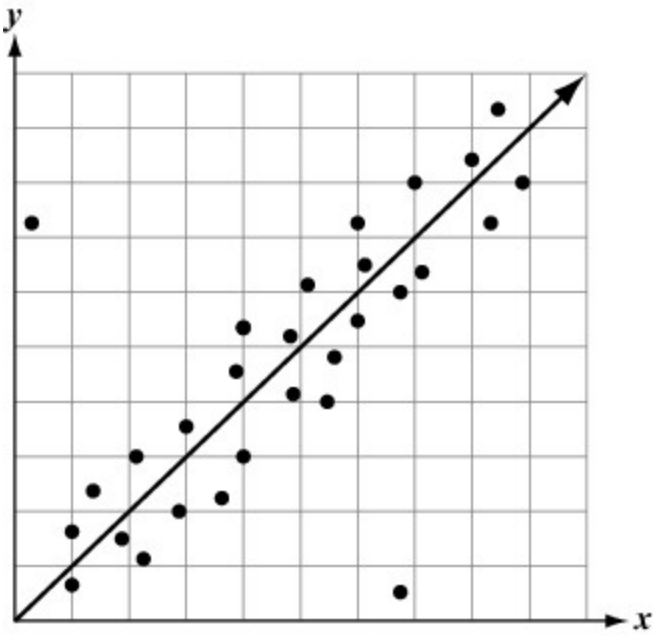
A.



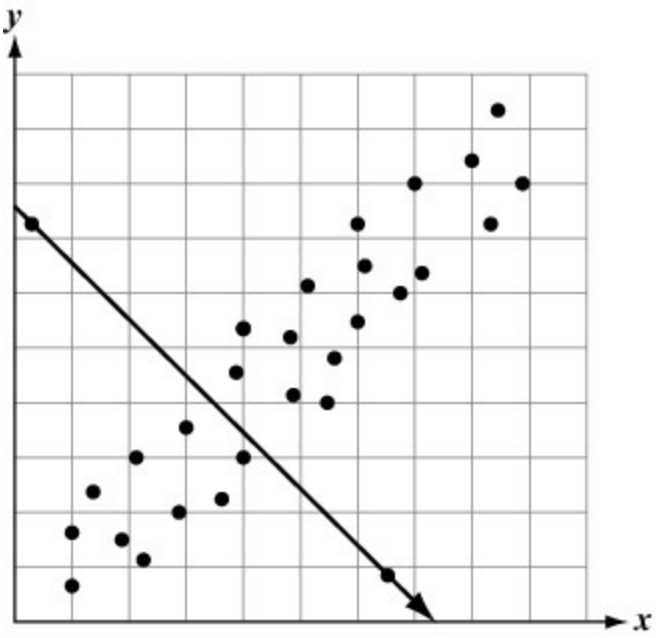
B.



C.

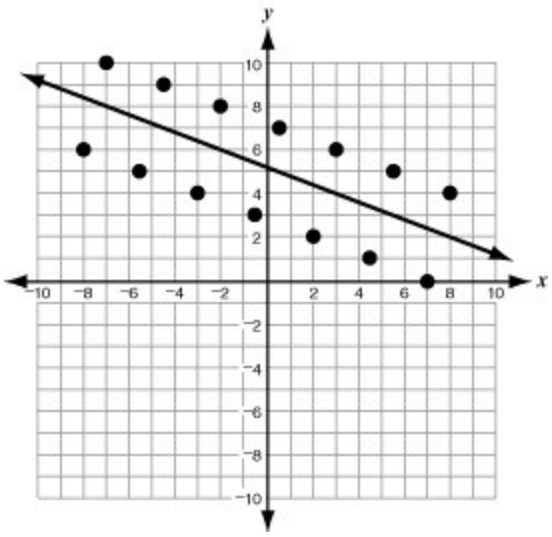


D.

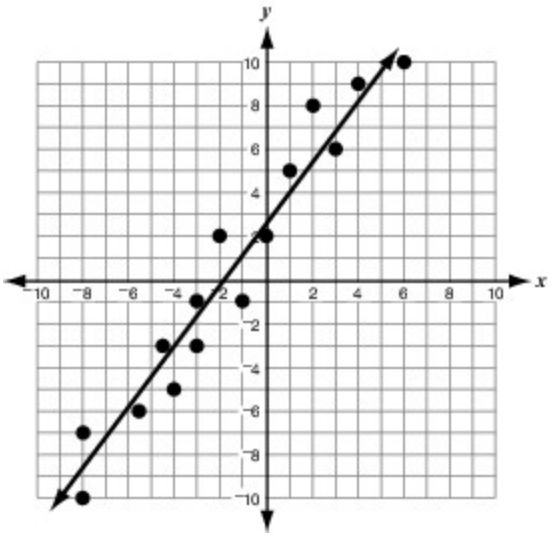


4. Which graph shows the line of best fit that **most** accurately models the relationship between the two variables?

A.



B.


y
x
10
8
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4
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−2
2
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−2
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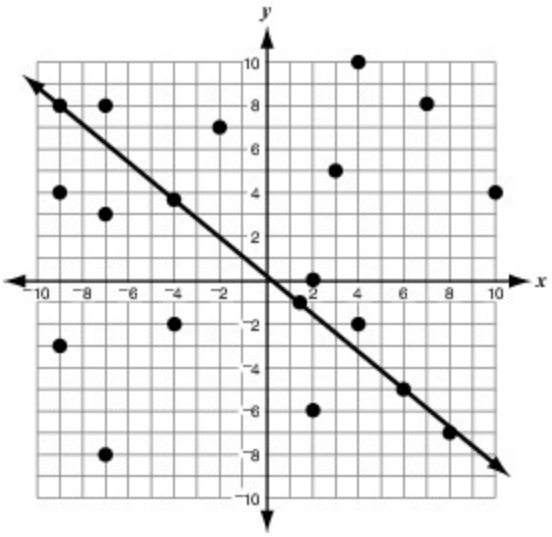
−8
−10

C.


y
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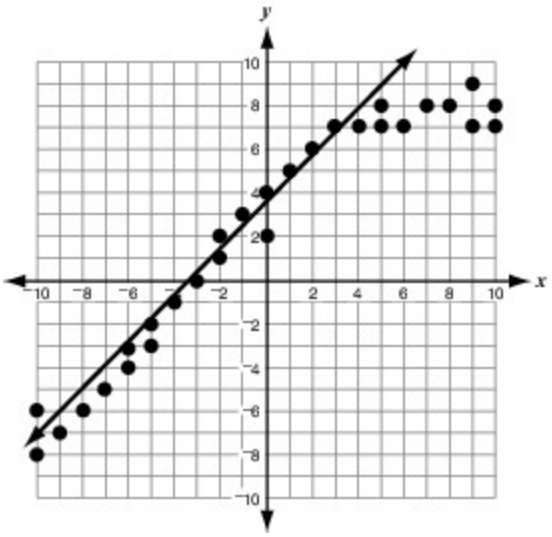
D.


y
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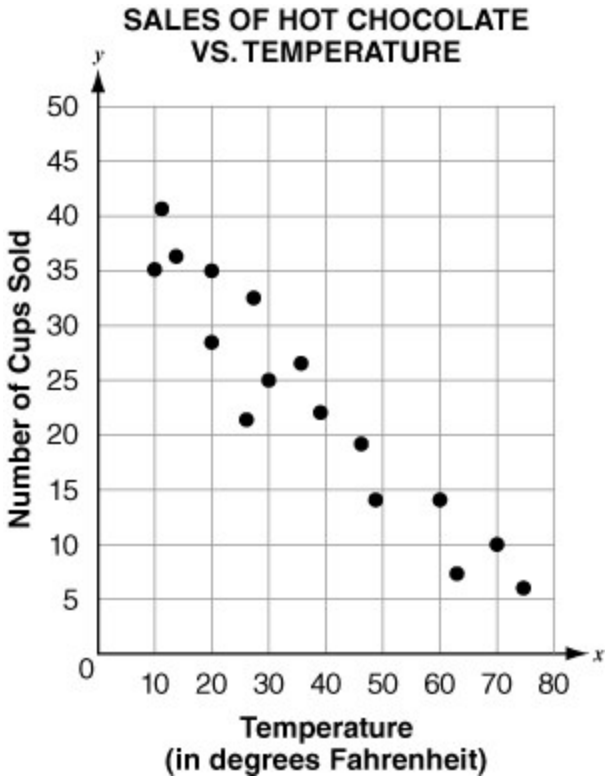
5. The number of cups, y, of hot chocolate sold at a concession stand at various temperatures, x, is shown below.



Which pattern of association **best** describes the relationship between the number of cups of hot chocolate sold and the temperature?

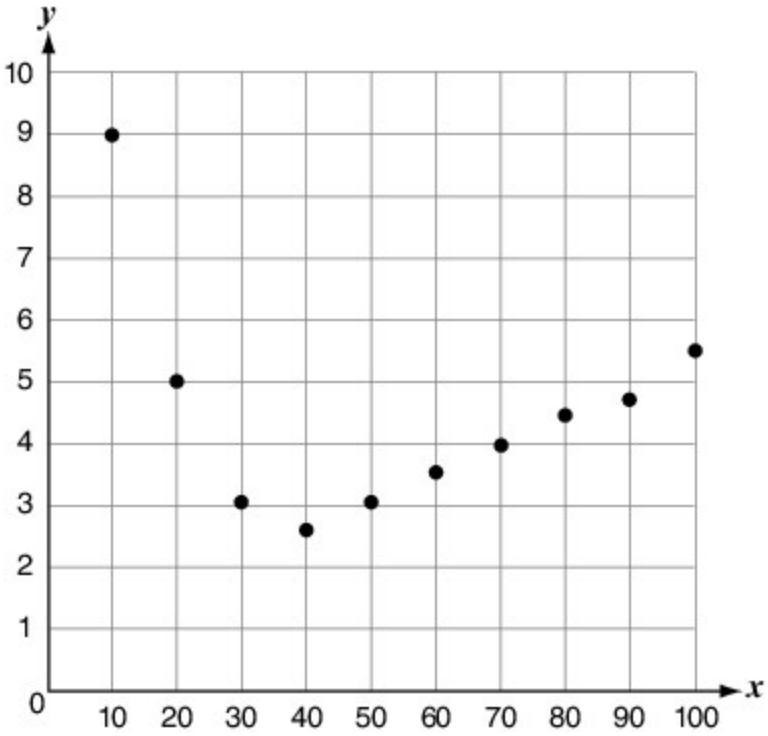
A. Nonlinear

B. Positive linear

C. Negative linear

D. No association

6. Use the graph to answer the question below.



Which value of x is an outlier?

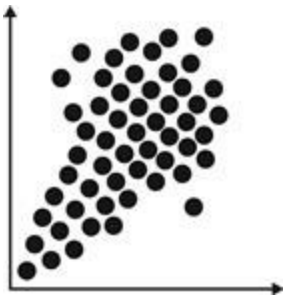
A. $x = 9$

B. $x = 10$

C. $x = 40$

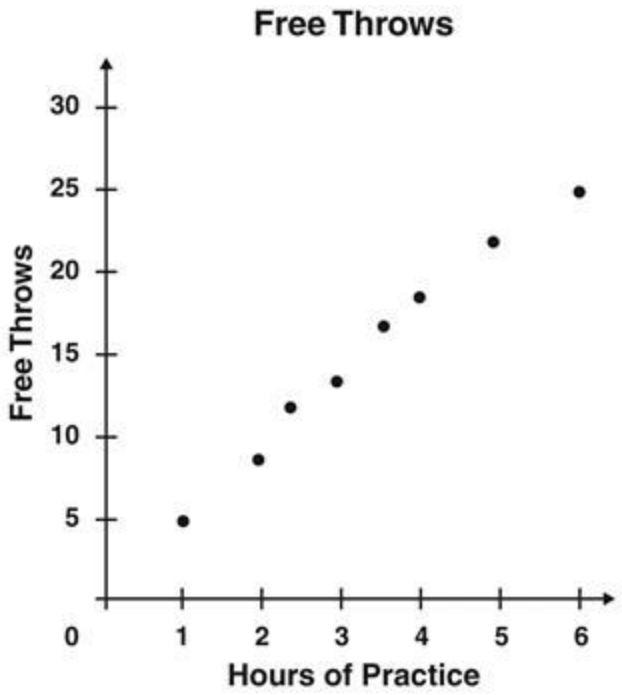
D. $x = 100$

7. **The scatterplot below suggests which of the following types of data relationship?**



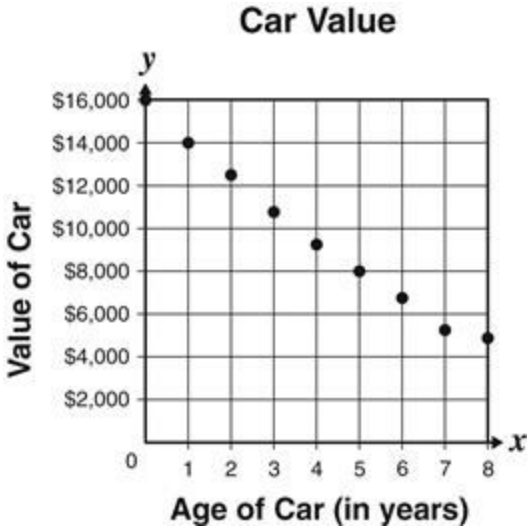
A. weak negative correlation
B. weak positive correlation
C. strong negative correlation
D. strong positive correlation

8. **What type of correlation is shown in this graph?**



A. Weak negative correlation
B. Strong negative correlation
C. Weak positive correlation
D. Strong positive correlation

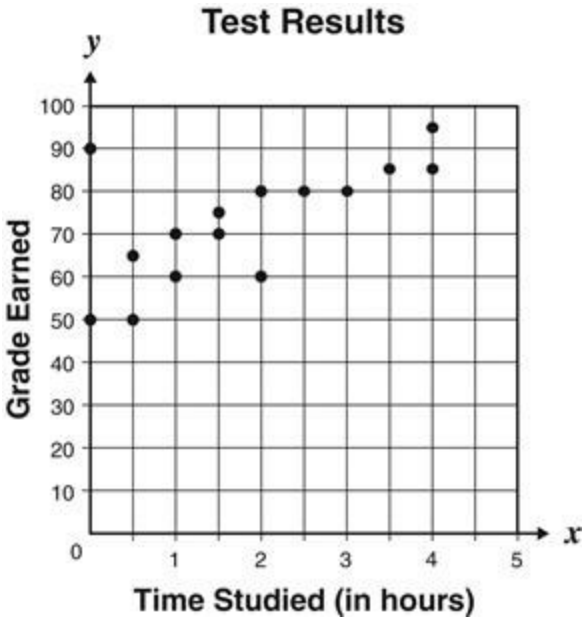
9. **The graph shows the value of a car at the time of purchase and after each of the next 8 years.**



According to the graph, which statement is true?

A. The value of the car decreased at the same rate each year.
B. As the age of the car increased, the value of the car decreased.
C. As the age of the car increased, the value of the car did not change.
D. The value of the car decreased $2,000 after the first year, so the value after 8 years should be $0.

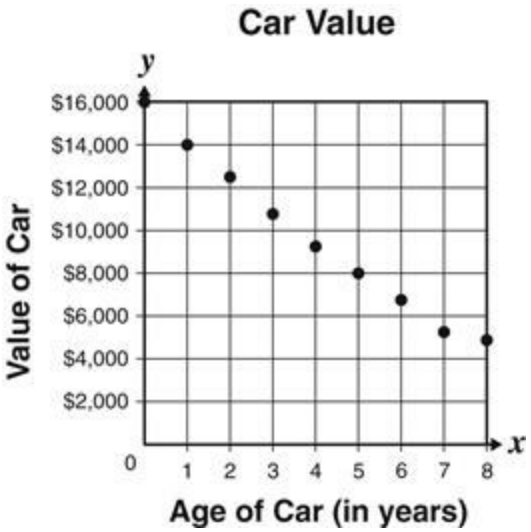
10. **This scatterplot shows the length of time 15 students studied for a test and the grades they earned.**



Which statement best describes the data?

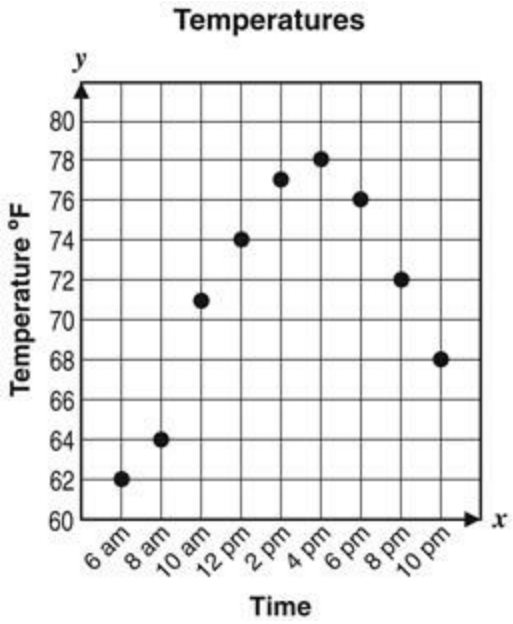
A. There is no correlation between the hours studied and grades earned.
B. There is a positive correlation between the hours studied and grades earned.
C. There is a constant correlation between the hours studied and grades earned.
D. There is a negative correlation between the hours studied and grades earned.

11. **Based on the data collected, which statement best describes the relationship between the value of the car and the age of the car?**



A. As the age of the car increases, the value of the car increases.
B. As the age of the car increases, the value of the car decreases.
C. As the age of the car increases, the value of the car is not affected.
D. As the age of the car increases, the value of the car remains constant.

12. **Jeremiah measured the temperature at various times during the day. He recorded the results on the graph shown.**



According to this graph, what was the temperature at 6:00 p.m.?

A. 62°F
B. 72°F
C. 76°F
D. 78°F

13. Based on the records of the weight of different newborn babies recorded in a pediatrician's clinic last year, the clinic predicted that the weight of a newborn baby for the first 12 months could be modeled by the equation **w = 1.08m + 7.2** , where *w* represents the weight, in pounds, of the baby after *m* months. What do the slope and *y*-intercept of the equation represent?

A. The weight of a baby at 12 months is 1.08 pounds and increases by 7.2 pounds every 12 months.

B. The weight of a baby at 12 months is 7.2 pounds and increases by 1.08 pounds every 12 months.

C. The weight of a baby at birth is 7.2 pounds and increases by 1.08 pounds every month.

D. The weight of a baby at the time of birth is 1.08 pounds and increases by 7.2 pounds every month.

14. A man used a faucet to add water to a pond. The man used the equation $v = 3{,}208m + 6{,}000$ to determine the volume, v, of the pond in milliliters after he had added water for m minutes. What is the meaning of the y-intercept of this equation?

A. The volume of the pond increases by 3,028 milliliters each minute.

B. The volume of the pond increases by 6,000 milliliters each minute.

C. The volume of the pond was 3,028 milliliters before the water was added.

D. The volume of the pond was 6,000 milliliters before the water was added.

15. When t is the time in hours, the equation $d = 2t + 8$ gives the total accumulated snow depth, d, in inches during a storm. Using this equation, how much snow will be added with each hour?

A. 1 inch

B. 2 inches

C. 8 inches

D. 10 inches

16. A college student is using the following model to determine the total number of text messages she will have in the inbox in her cell phone, if she does not delete any of the current messages or future messages she receives in the next x days. In the model, y represents the total number of text messages in her inbox after x days.

$$y = 180 + 84x$$

What does 180 represent in the model?

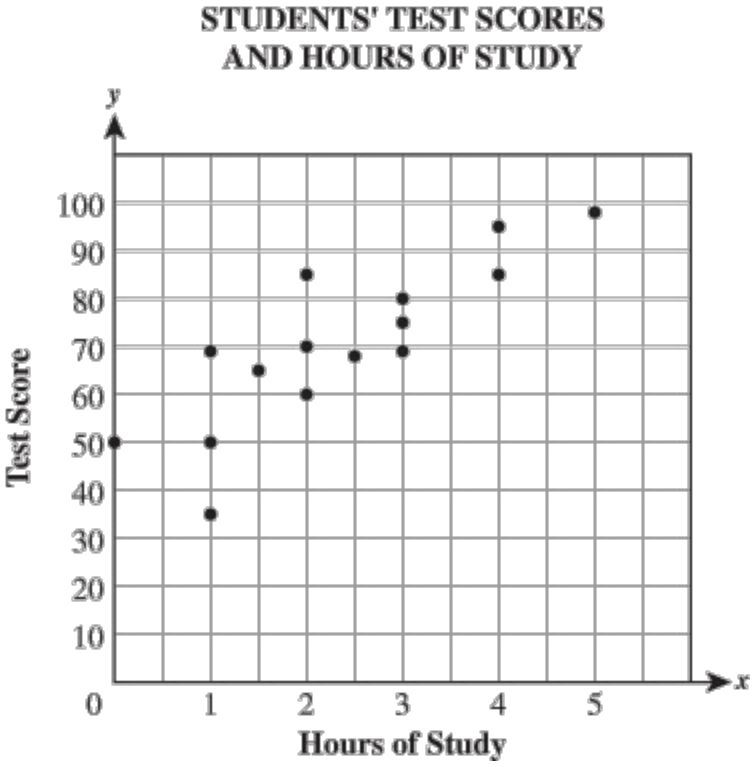
A. The current number of text messages on her phone.

B. The maximum number of text messages she can receive in a day.

C. The number of text messages she predicts she will receive per day.

D. The number of text messages she predicts she will receive in 3 months.

17. Each point on the scatter plot below represents the number of hours a student studied for a test and the student's test scores.



Which equation is the closest approximation to the line of best fit?

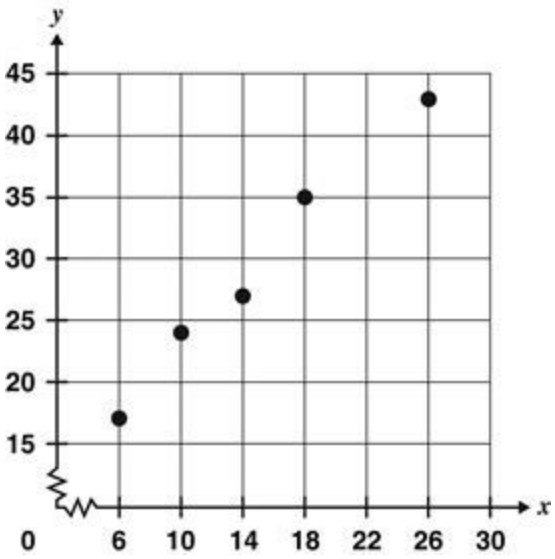
A. y = -10x + 90

B. y = 6x + 60

C. y = 10x + 45

D. y = 15x + 20

18. **A scatterplot showing a relationship between *x* and *y* is shown below.**



Which equation represents the line of best fit for the graph?

A. $y = x + 5$

B. $y = x - 5$

C. $y = x + 15$

D. $y = 2x - 15$