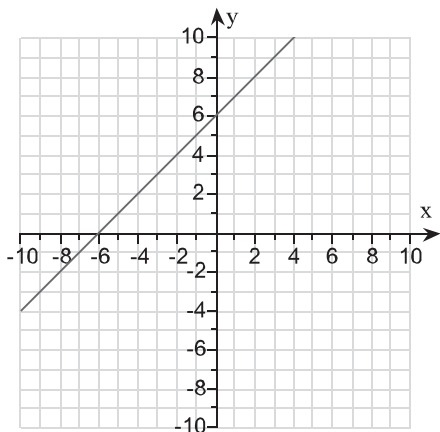


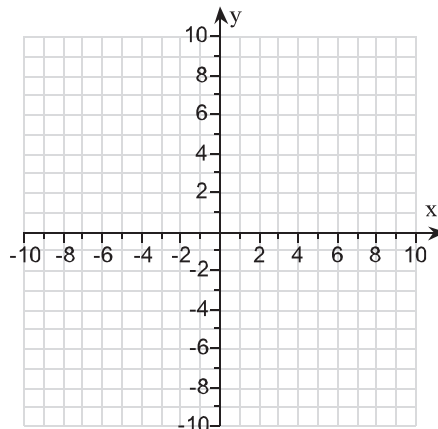
Practice 5-5

The y-intercept of a Line

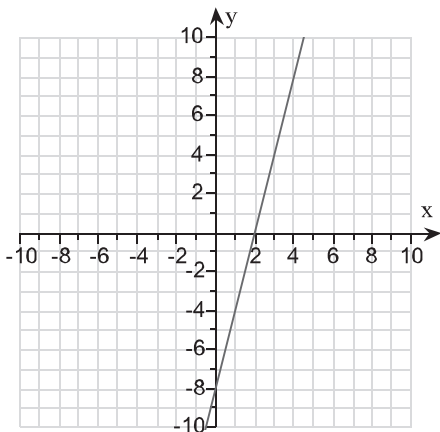
1. What is the y-intercept of the graph?



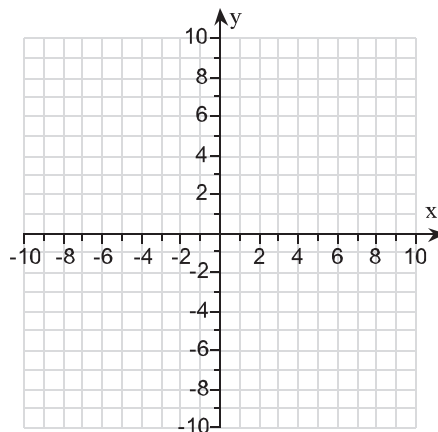
2. Graph the equation $y = x + 7$.
What is the y-intercept of the graph of the equation?



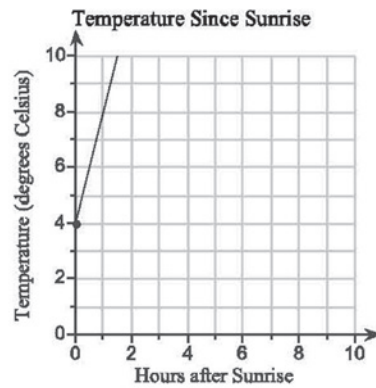
3. What is the y-intercept of the graph?



4. Graph the equation $y = 2x - 4$ and find the y-intercept.

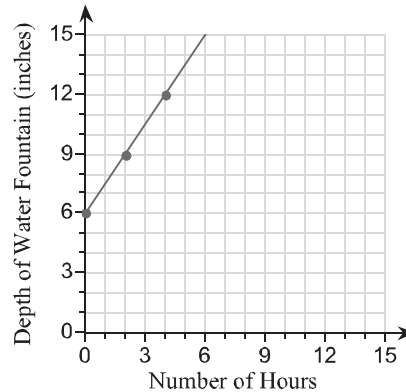


5. The line models the temperature on a certain winter day since sunrise.
- What is the y-intercept of the line?
 - What does the y-intercept represent?
 - A. the rate the temperature decreases
 - B. the temperature at sunset
 - C. the temperature at sunrise
 - D. the rate the temperature increases



6. The line models the depth of the water in a small fountain during a severe rainstorm.
- What is the y-intercept?
 - What does the y-intercept represent?
 - A. the rate at which the depth increases
 - B. the amount of water in the fountain before the rainstorm
 - C. the depth of the fountain after the rainstorm
 - D. the depth of the fountain before the rainstorm

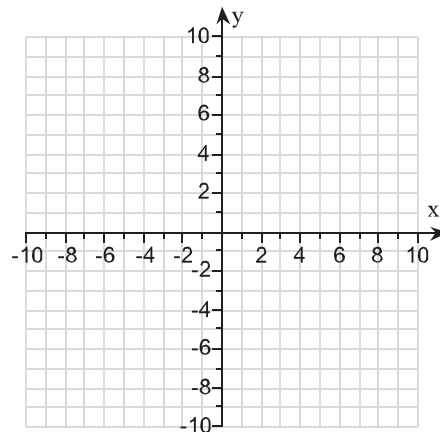
The Depth of a Water Fountain During a Severe Rainstorm



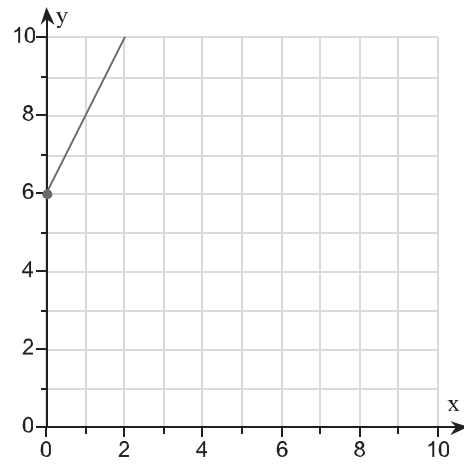
- What is the slope of the line? Simplify your answer.
- What does the slope of the line represent?
 - A. the depth of the fountain before the rainstorm
 - B. the rate at which the depth increases
 - C. the amount of water in the fountain before the rainstorm
 - D. the depth of the fountain after the rainstorm

7. **Error Analysis** Jamal's notes say to let $x = 0$ and solve for y to find the y-intercept of an equation. He incorrectly says the y-intercept of this equation is 5.

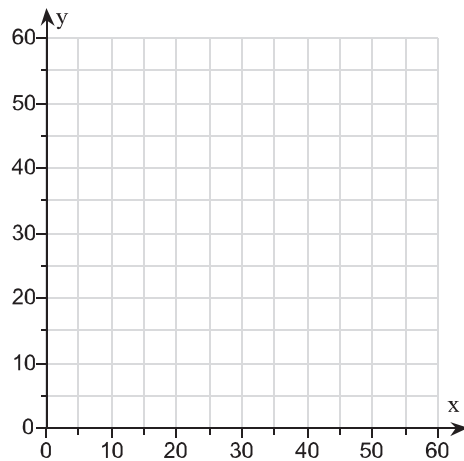
- Graph the equation $y = x - 5$.
- Find the y-intercept using Jamal's method.
- Which mistake might Jamal have made?
 - A. He let $x = 1$ and solved for y .
 - B. He let $y = 0$ and solved for x .
 - C. He let $y = 1$ and solved for x .
 - D. He let $x = 0$ and solved for y .



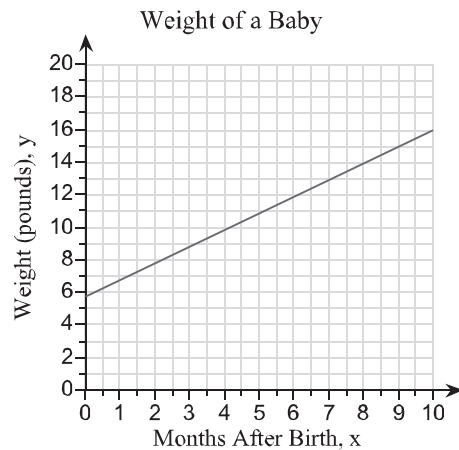
8. a) **Writing** What is the y-intercept of the graph?
- b) Describe a situation for the graph of the line.



9. **Cell Phones** A cell phone company charges a \$35 startup fee and then \$0.50 for every minute used. The equation $y = 0.50x + 35$ models this situation. Graph the equation and find the y-intercept.

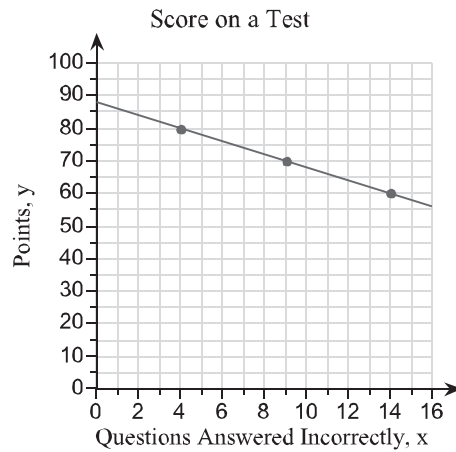


10. **Estimation** The line in the graph models the weight, y , of a baby x months after birth.
- a) Estimate the y-intercept of the graph.
- b) What does the y-intercept represent?
- A. the baby's weight at age 10 months
 - B. the baby's weight at birth
 - C. the baby's age
 - D. the rate the baby's weight increases

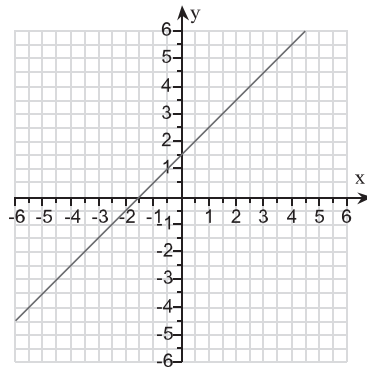


11. Reasoning Each question on an 88-point test is worth 2 points. Partial answers receive partial credit. The line models this situation.

- a) What is the y-intercept?
- b) What does the y-intercept represent?
- A. the student's score if every question is wrong
 - B. the number of points lost if the student answered a question incorrectly
 - C. a perfect score on the test
 - D. the student's score on the test
- c) What is the slope of the line?
- d) What does the slope of the line represent?
- A. the number of points lost if the student answered a question incorrectly
 - B. the student's score on the test
 - C. a perfect score on the test
 - D. the student's score if every question is wrong
- e) Describe how you could use the graph to find the maximum number of incorrect answers allowed for a passing mark of 60 points.

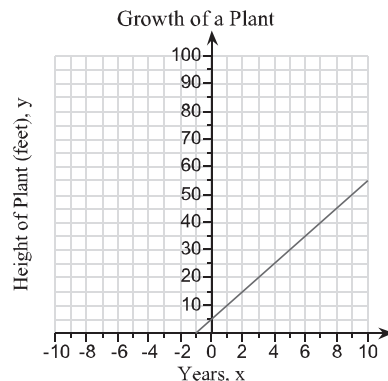


12. What is the y-intercept of the graph shown at the right?



13. The line in the graph models the growth of a plant in the past 10 years.

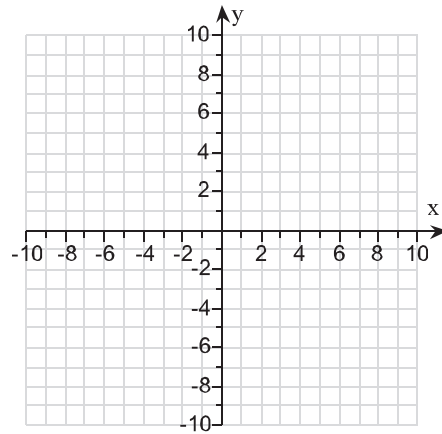
- a) What is the y-intercept of the line?
- b) What does the y-intercept represent?
- A. The height of the plant 10 years ago
 - B. The growth of the plant each year
 - C. The tallest the plant will grow
 - D. How many years ago the plant was planted
- c) How many years ago did the plant start to grow?



14. Think About the Process

a) Before graphing, describe where on the graph of the line $y = x - 7$ the y-intercept will be located.

- A. The y-intercept will be located where the x-value is 1.
- B. The y-intercept will be located where the graph crosses the y-axis.
- C. The y-intercept will be located where the graph crosses the x-axis.
- D. The y-intercept will be located where the x-value is -1 .



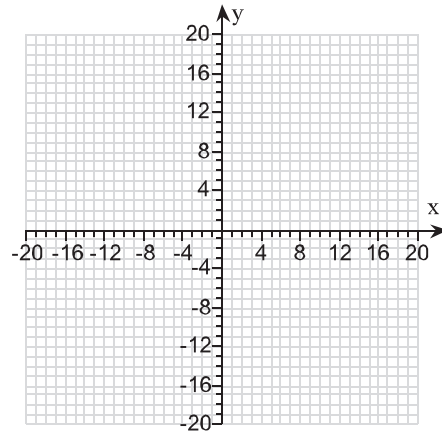
b) Graph the equation.

c) What is the y-intercept of the graph of the equation?

15. Think About the Process

a) How does the slope affect the graph of a line?

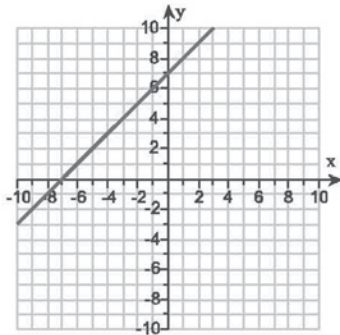
- A. The slope affects where the line ends.
- B. The slope affects the steepness of the line.
- C. The slope affects where the line starts.
- D. The slope affects where the line will cross the y-axis.



b) Graph the equation $y = \frac{3}{4}x - 6$ and identify the y-intercept.

1. 6

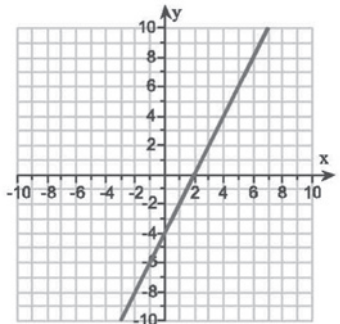
2.



7

3. -8

4.



-4

5. a) 4

b) C

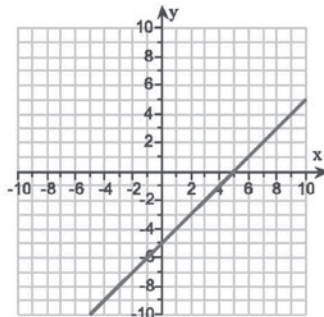
6. a) 6

b) D

c) 1.50

d) B

7. a)



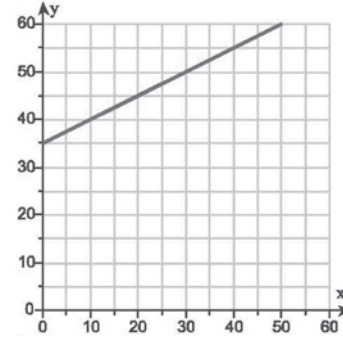
b) -5

c) B

8. a) 6

b) Answers will vary

9.



35

10. a) 6

b) B

11. a) 88

b) C

c) -2

d) A

e) Answers will vary

12. $1\frac{1}{2}$

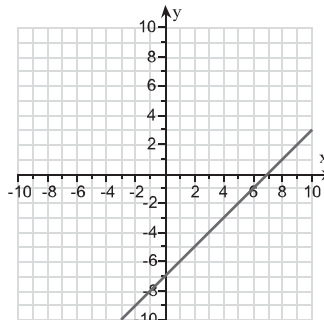
13. a) 5

b) A

c) 11

14. a) B

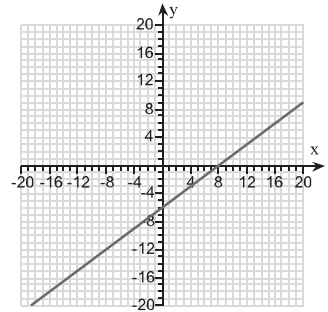
b)



c) -7

15. a) B

b)



-6