

## Lesson 5 Practice Problems

1. *Technology required.*

$x$	$y$
83	102
87	115
91	107
93	122
97	125
97	127
101	120
104	127

a. Use graphing technology to create a scatter plot and find the best fit line.

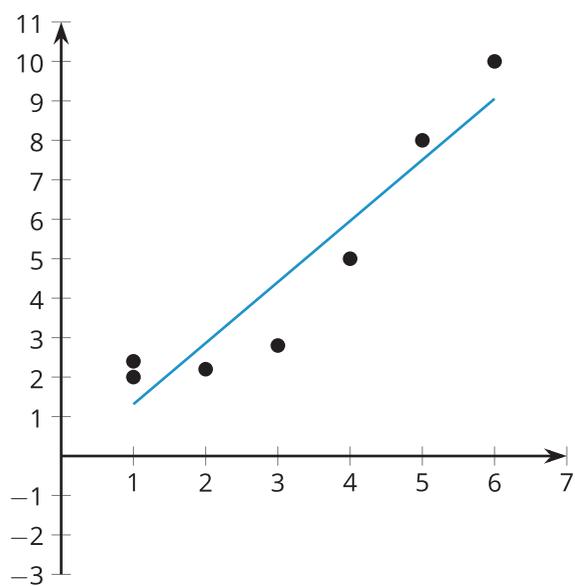
b. What does the best fit line estimate for the  $y$  value when  $x$  is 100?

2. *Technology required.*

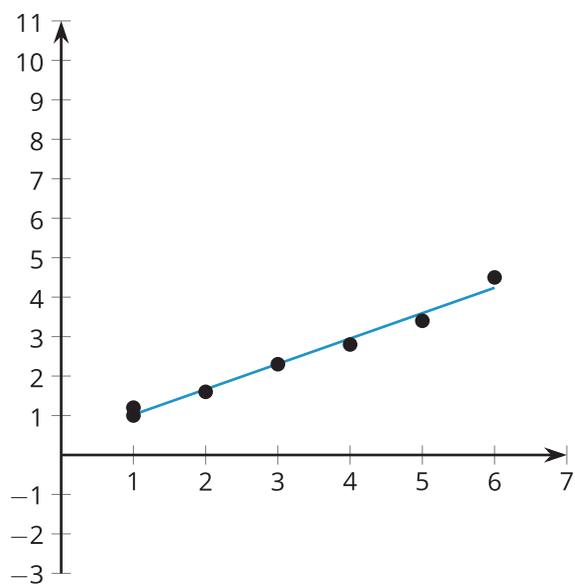
$x$	$y$
2.3	6.2
2.8	5.7
3.1	4.7
3	3.2
3.5	3
3.8	2.8

- a. What is the equation of the line of best fit? Round numbers to 2 decimal places.
- b. What does the equation estimate for  $y$  when  $x$  is 2.3? Round to 3 decimal places.
- c. How does the estimated value compare to the actual value from the table when  $x$  is 2.3?
- d. How does the estimated value compare to the actual value from the table when  $x$  is 3?

3. Which of these scatter plots are best fit by the shown linear model?

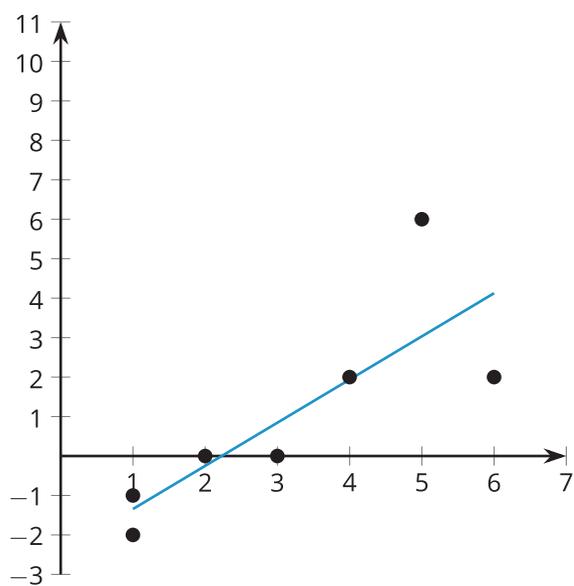


A.

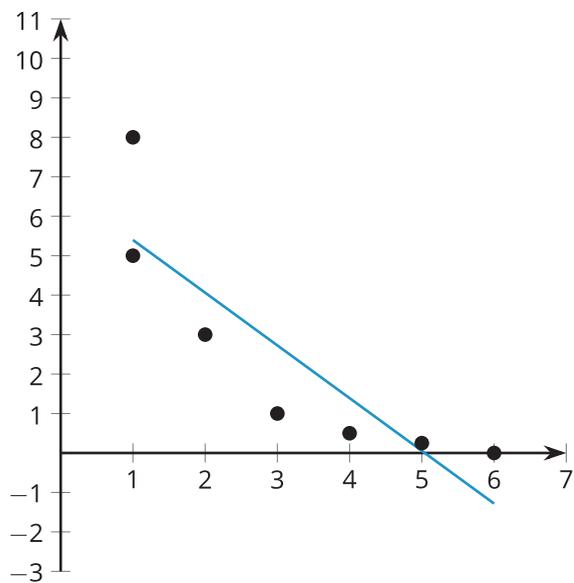


B.

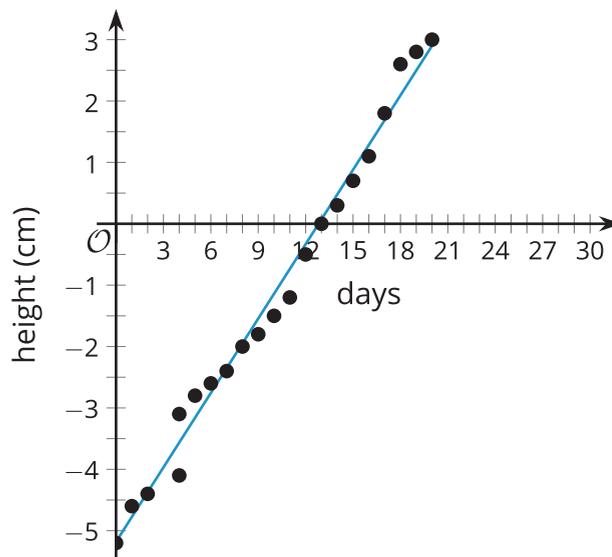
C.



D.



4. A seed is planted in a glass pot and its height is measured in centimeters every day.



The best fit line is given by the equation  $y = 0.404x - 5.18$ , where  $y$  represents the height of the plant above ground level, and  $x$  represents the number of days since it was planted.

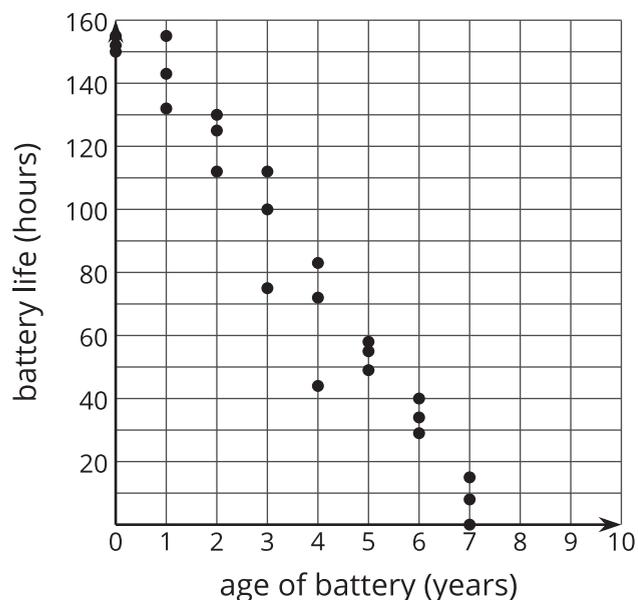
a. What is the slope of the best fit line? What does the slope of the line mean in this situation? Is it reasonable?

b. What is the  $y$ -intercept of the best fit line? What does the  $y$ -intercept of the line mean in this situation? Is it reasonable?

(From Unit 3, Lesson 4.)



6. A recent study investigated the amount of battery life remaining in alkaline batteries of different ages. The scatter-plot shows this relationship between the different alkaline batteries tested.



The scatter plot includes a point at (7, 15). Describe the meaning of this point in this situation.

(From Unit 3, Lesson 4.)