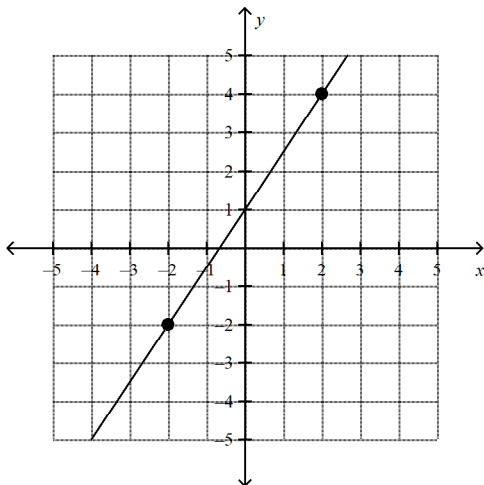


**Unit 2 Test Practice Algebra 1****Multiple Choice**

Identify the choice that best completes the statement or answers the question.

Write the slope-intercept form of the equation for the line.

\_\_\_\_\_ 1.



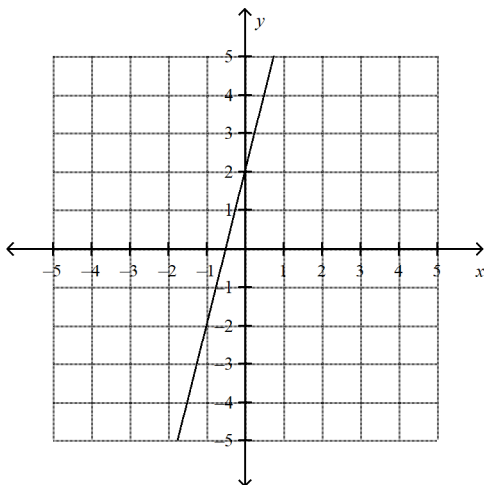
a.  $y = \frac{2}{3}x - 1$

c.  $y = \frac{2}{3}x + 1$

b.  $y = -\frac{3}{2}x + 1$

d.  $y = \frac{3}{2}x + 1$

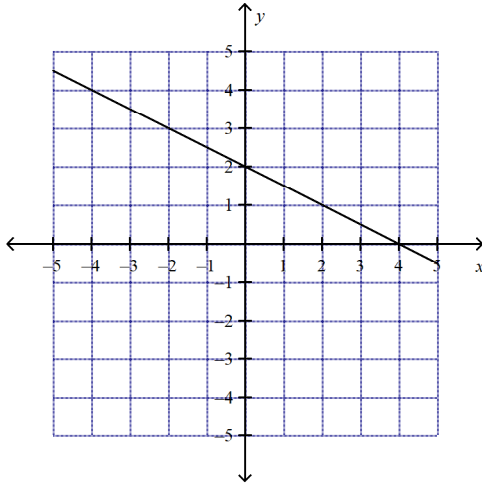
\_\_\_\_\_ 2. What do you expect the slope of the line to be from looking at the graph?



a. The slope is positive

b. The slope is negative

- \_\_\_\_\_ 3. The graph below represents one function, and the table represents a different function. How are the functions similar? How are they different?



$x$	-2	-1	0	1	2
$y$	0	1	2	3	4

- The function have the same slope and the same  $y$ -intercept.
- The functions have the same  $y$ -intercept but different slopes.
- The functions have the same slope, but different  $y$ -intercepts.
- The functions are both linear, but have different slopes and different  $y$ -intercepts.

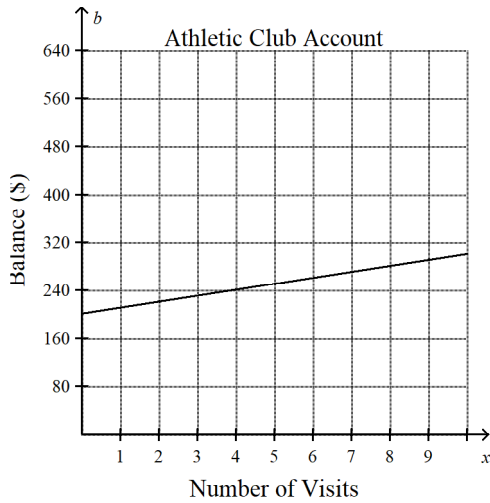
**What are the slope and  $y$ -intercept of the graph of the given equation?**

- \_\_\_\_\_ 4.  $y = -8x + 6$
- The slope is  $-6$  and the  $y$ -intercept is  $-8$ .
  - The slope is  $8$  and the  $y$ -intercept is  $-6$ .
  - The slope is  $6$  and the  $y$ -intercept is  $-8$ .
  - The slope is  $-8$  and the  $y$ -intercept is  $6$ .

- \_\_\_\_\_ 5. Which equation's graph is a vertical line?
- $3x + 3y = 0$
  - $3x - 3y = 0$
  - $4x = 12$
  - $y = -2$

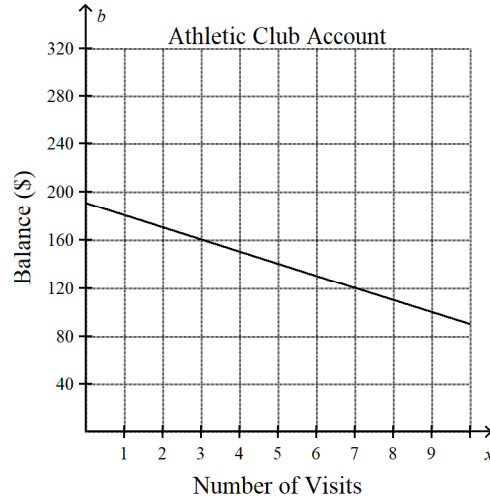
6. Giselle pays \$190 in advance on her account at the athletic club. Each time she uses the club, \$10 is deducted from the account. Model the situation with a linear function and a graph.

a.



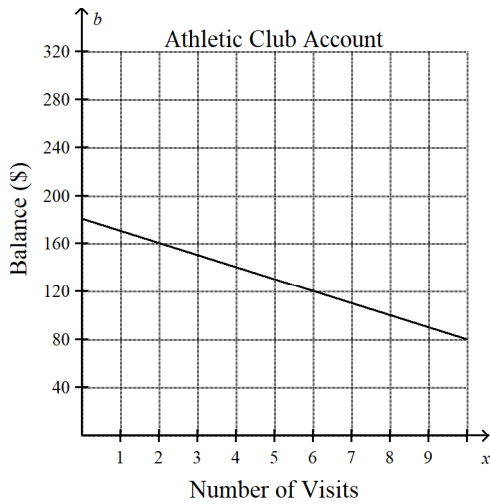
$$b = 180 + 10x$$

c.



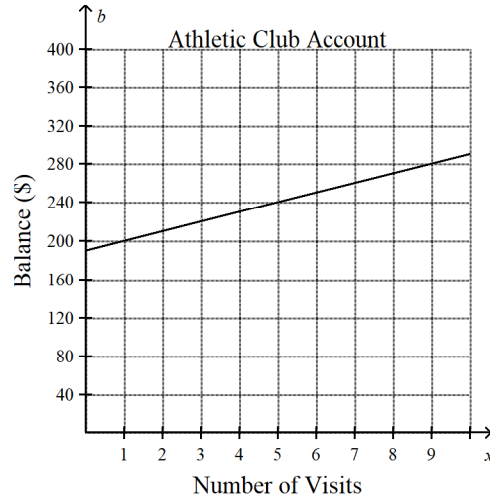
$$b = 190 - 10x$$

b.



$$b = 180 - 10x$$

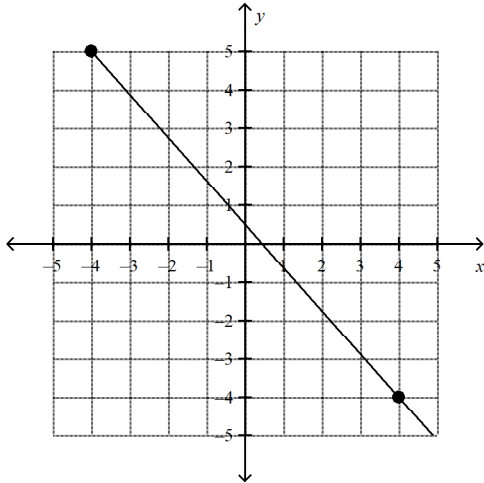
d.



$$b = 190 + 10x$$

What is an equation of the line?

\_\_\_\_\_ 7.



a.  $y - 4 = \frac{9}{8}(x + 4)$

c.  $y - 5 = -\frac{9}{8}(x + 4)$

b.  $y - 4 = \frac{1}{2}(x + 5)$

d.  $y - 5 = -\frac{8}{9}(x + 4)$

Write an equation for the line through the given point with the given slope.

\_\_\_\_\_ 8.  $(-1, -9); m = -\frac{3}{2}$

a.  $y - 9 = -\frac{3}{2}(x - 1)$

c.  $y + 9 = -\frac{3}{2}(x + 1)$

b.  $y + 1 = -\frac{3}{2}(x + 9)$

d.  $y - 9 = -\frac{3}{2}(x + 1)$

\_\_\_\_\_ 9. Which equation in point-slope form is equivalent to  $y = -\frac{3}{4}x + 9$ ?

a.  $y - \frac{3}{4} = 9(x - 0)$

c.  $y - 1 = 9(x + \frac{3}{4})$

b.  $y - 1 = -\frac{3}{4}(x - 9)$

d.  $y - 9 = -\frac{3}{4}(x - 0)$

- \_\_\_\_\_ 10. The table shows the height of a plant as it grows. What equation in point-slope form gives the plant's height at any time? Let  $y$  stand for the height of the plant in cm and let  $x$  stand for the time in months.

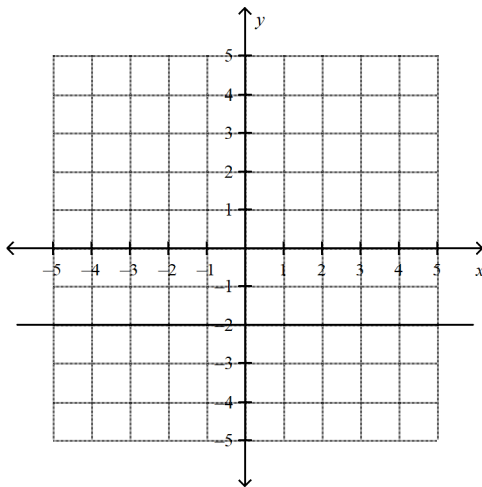
Time (months)	Plant Height (cm)
3	27
5	45
7	63
9	81

- a.  $y - 27 = 9(x - 3)$                       c.  $y - 3 = \frac{9}{2}(x - 27)$   
 b.  $y - 27 = \frac{9}{2}(x - 3)$                       d. The relationship cannot be modeled.

**Find the  $x$ - and  $y$ -intercept of the line.**

- \_\_\_\_\_ 11.  $3x - 7y = 84$
- a.  $x$ -intercept is  $-7$ ;  $y$ -intercept is  $3$                       c.  $x$ -intercept is  $3$ ;  $y$ -intercept is  $-7$   
 b.  $x$ -intercept is  $-12$ ;  $y$ -intercept is  $28$                       d.  $x$ -intercept is  $28$ ;  $y$ -intercept is  $-12$

- \_\_\_\_\_ 12. Which equation matches the graph?



- a.  $-2y = 4$                                       c.  $x + y = -2$   
 b.  $-2x = 4$                                       d.  $y = -2x$

\_\_\_\_\_ 13. The grocery store sells dates for \$4.75 a pound and pomegranates for \$2.25 a pound. Write an equation in standard form for the weights of dates  $d$  and pomegranates  $p$  that a customer could buy with \$14.

a.  $4.75d = 2.25p + 14$

c.  $4.75 + 2.25 = d$

b.  $4.75d + 2.25p = 14$

d.  $4.75p + 2.25d = 14$

\_\_\_\_\_ 14. The slope of line  $m$  is  $\frac{3}{8}$ . Line  $n$  is perpendicular to line  $m$ . What is the slope of line  $n$ ?

a.  $\frac{3}{8}$

c.  $\frac{8}{3}$

b.  $-\frac{3}{8}$

d.  $-\frac{8}{3}$

**Tell whether the lines for each pair of equations are *parallel*, *perpendicular*, or *neither*.**

\_\_\_\_\_ 15.  $y = -\frac{7}{4}x - 1$

$16x - 28y = -32$

a. parallel

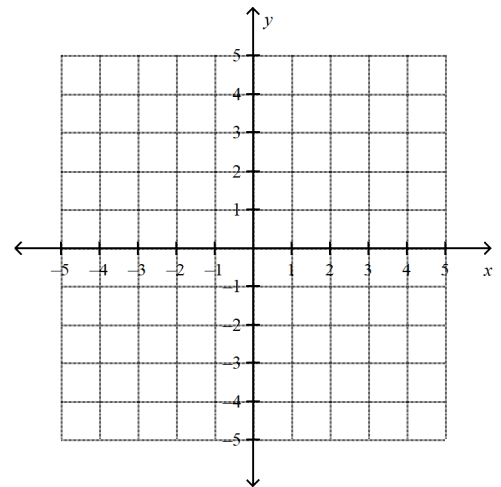
b. perpendicular

c. neither

### Short Answer

**Graph the equation.**

16.  $y = -x - 2$



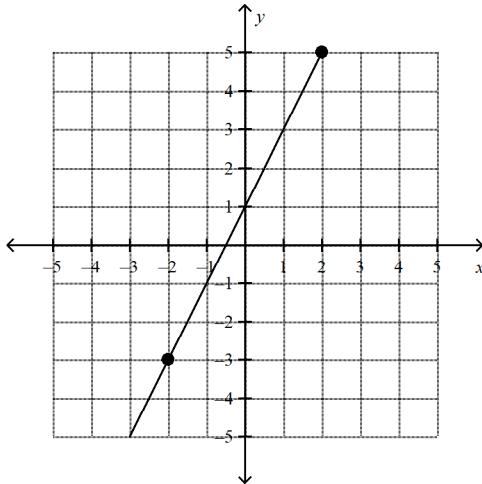
Write an equation of a line with the given slope and y-intercept.

17.  $m = -5, b = -7$

\_\_\_\_\_

What is an equation of the line?

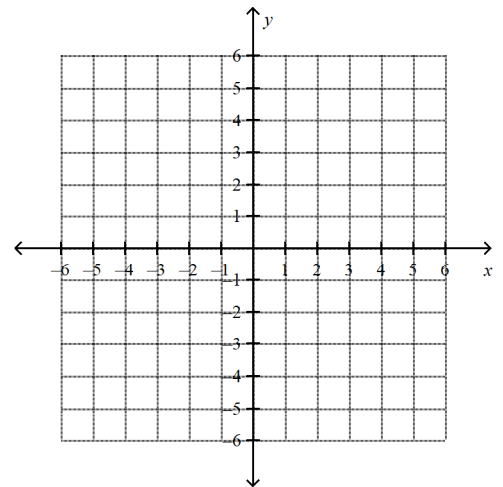
18.



\_\_\_\_\_

Graph the equation using point-slope form.

19.  $y - 5 = -2(x - 2)$



Name: \_\_\_\_\_

ID: X

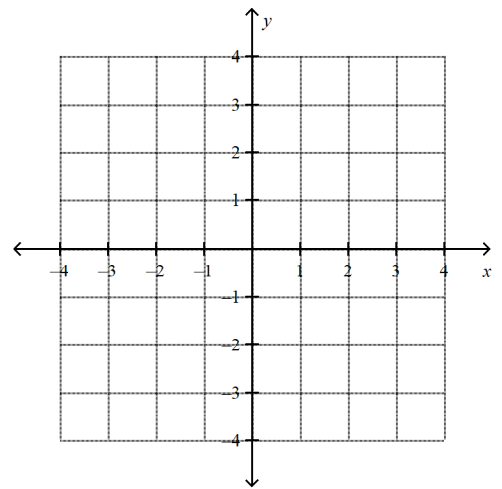
Write an equation for the line through the given point with the given slope.

20.  $(4, -6); m = -8$

\_\_\_\_\_

Graph of the equation.

21.  $x = -1$



Write an equation for the line that is parallel to the given line and passes through the given point.

22.  $y = 2x + 5; (2, 8)$

\_\_\_\_\_



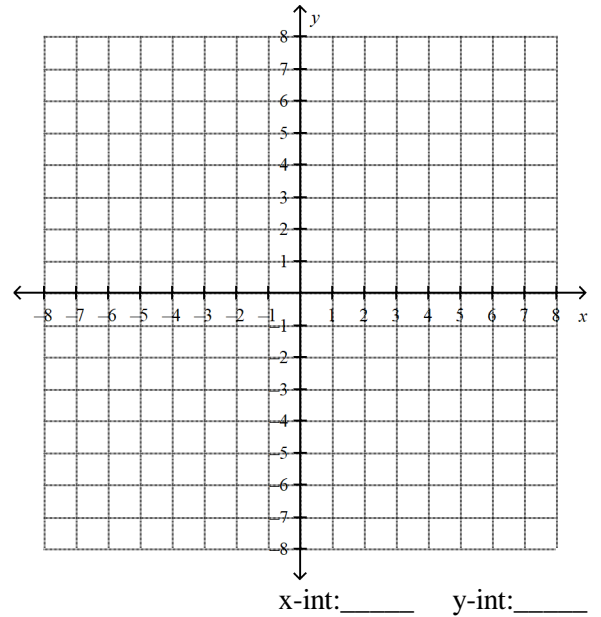
Write the equation of a line that is perpendicular to the given line and that passes through the given point.

23.  $y - 1 = -\frac{1}{2}(x + 5); (-5, 1)$

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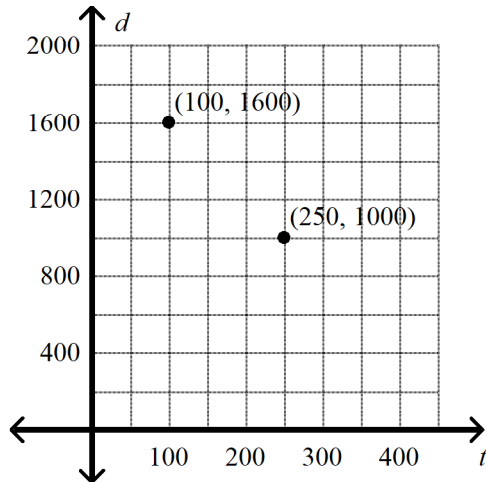
Graph using intercepts. State the intercepts.

24.  $8x - 2y = -16$



## Essay

25. Eliza races for her crew team. The graph shows the distance  $d$  in meters of Eliza's watercraft from the finish line and time  $t$  in seconds since the start of the race.



a. What do the two points in the graph represent? \_\_\_\_\_

b. Find the slope of the graph. Then explain the meaning of the slope.

Slope: \_\_\_\_\_      Meaning of slope:

c. Find the y-intercept of the graph. Then explain the meaning of the y-intercept.

y-intercept: \_\_\_\_\_      Meaning of y-intercept:

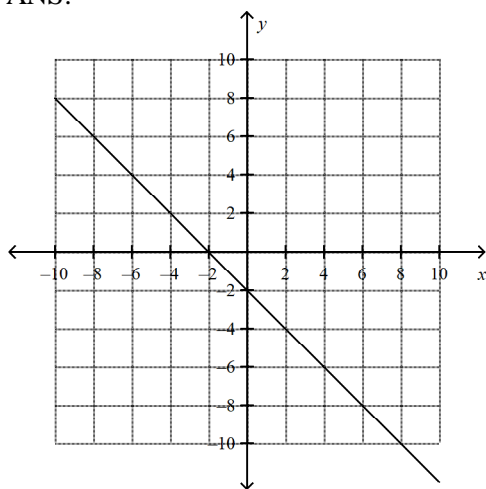
## Unit 2 Test Practice Algebra 1 Answer Section

### MULTIPLE CHOICE

- |            |        |   |
|------------|--------|---|
| 1. ANS: D  | PTS: 1 | REF: 2-1 Slope-Intercept Form             |
| 2. ANS: A  | PTS: 1 | REF: 2-1 Slope-Intercept Form             |
| 3. ANS: B  | PTS: 1 | REF: 2-1 Slope-Intercept Form             |
| 4. ANS: D  | PTS: 1 | REF: 2-1 Slope-Intercept Form             |
| 5. ANS: C  | PTS: 1 | REF: 2-3 Standard Form                    |
| 6. ANS: C  | PTS: 1 | REF: 2-1 Slope-Intercept Form             |
| 7. ANS: C  | PTS: 1 | REF: 2-2 Point-Slope Form                 |
| 8. ANS: C  | PTS: 1 | REF: 2-2 Point-Slope Form                 |
| 9. ANS: D  | PTS: 1 | REF: 2-2 Point-Slope Form                 |
| 10. ANS: A | PTS: 1 | REF: 2-2 Point-Slope Form                 |
| 11. ANS: D | PTS: 1 | REF: 2-3 Standard Form                    |
| 12. ANS: A | PTS: 1 | REF: 2-3 Standard Form                    |
| 13. ANS: B | PTS: 1 | REF: 2-3 Standard Form                    |
| 14. ANS: D | PTS: 1 | REF: 2-4 Parallel and Perpendicular Lines |
| 15. ANS: B | PTS: 1 | REF: 2-4 Parallel and Perpendicular Lines |

### SHORT ANSWER

16. ANS:

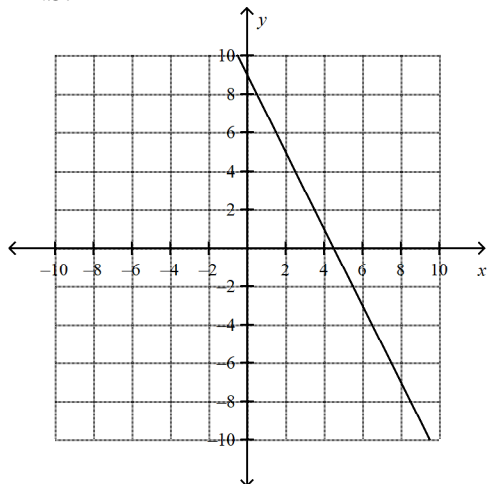


- PTS: 3                      REF: 2-1 Slope-Intercept Form
17. ANS:  
 $y = -5x - 7$
- PTS: 2                      REF: 2-1 Slope-Intercept Form

18. ANS:  
 $y + 3 = 2(x + 2)$

PTS: 3 REF: 2-2 Point-Slope Form

19. ANS:

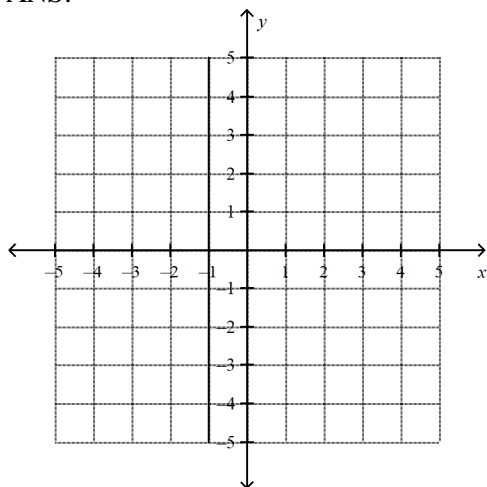


PTS: 3 REF: 2-2 Point-Slope Form

20. ANS:  
 $y + 6 = -8(x - 4)$

PTS: 4 REF: 2-2 Point-Slope Form

21. ANS:



PTS: 2 REF: 2-3 Standard Form

22. ANS:  
 $y = 2x + 4$

PTS: 4 REF: 2-4 Parallel and Perpendicular Lines

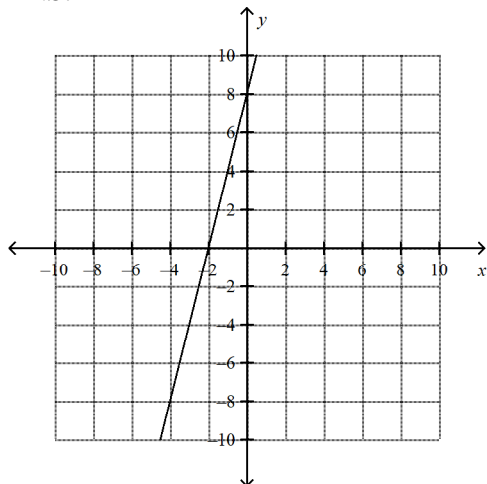
23. ANS:

$$y - 1 = 2(x + 5)$$

PTS: 4

REF: 2-4 Parallel and Perpendicular Lines

24. ANS:



PTS: 4

REF: 2-3 Standard Form

**ESSAY**

25. ANS:

- a. Eliza is 1600 meters from the finish line after 100 seconds of the race. Eliza is 1000 meters from the finish line after 250 seconds of the race.
- b. The slope is  $-4$ . Eliza's watercraft travels at a speed of about 4 meters per second towards the finish line.
- c. The y-intercept is 2000. The length of the race is 2000 meters.

PTS: 6

REF: 2-1 Slope-Intercept Form