

Grade 9 Math
Unit 3 - The Line
Outcomes: B15, C1, C2, C3, C4, C5, F2

Name: _____

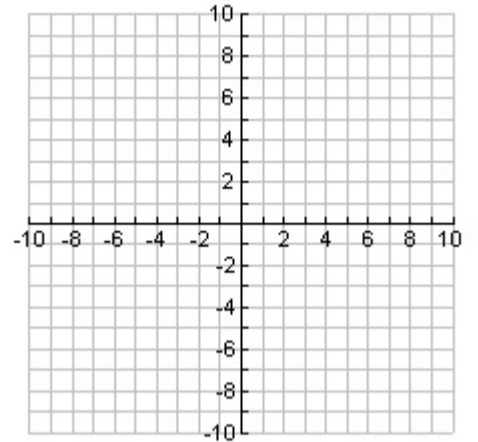
Part 1: Multiple choice.

1. The point (2, -6) is in which quadrant?

- A) 1st
- B) 2nd
- C) 3rd
- D) 4th

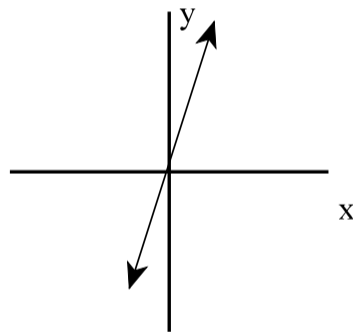
2. Two cars are traveling at the same speed. Car A is traveling along a path defined by $y = 2x - 4$ and car B is traveling along a path given by $y = \frac{1}{2}x - 1$. What is the point of intersection of the two cars?

- A) (1, -2)
- B) (2, 0)
- C) (3, 2)
- D) (4, 1)



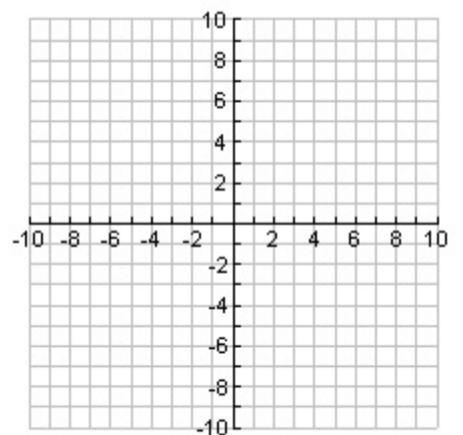
3. Four students wrote an equation for the graph shown. Which equation is correct?

- A) $y = -\frac{7}{3}x$
- B) $y = -\frac{3}{7}x$
- C) $y = \frac{3}{7}x$
- D) $y = \frac{7}{3}x$



4. What is the slope of the line that contains the points (-4, 3) and (5, -3)?

- A) $-\frac{3}{2}$
- B) $-\frac{2}{3}$
- C) $\frac{2}{3}$
- D) $\frac{3}{2}$

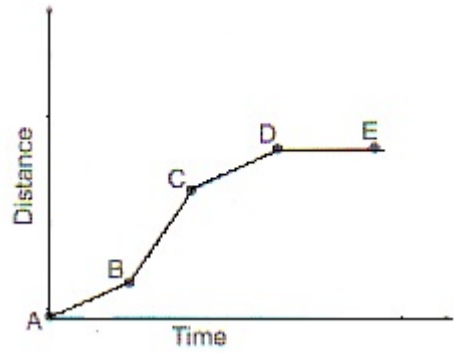


5. This table provides three data points from a linear data set. Where would the line that contains this data cross the y-axis?

- | | | | | | | |
|-------|---|-----|---|----|----|-----|
| A) -3 | x | ... | 6 | 8 | 10 | ... |
| B) -1 | y | ... | 9 | 13 | 17 | ... |
| C) 0 | | | | | | |
| D) 11 | | | | | | |

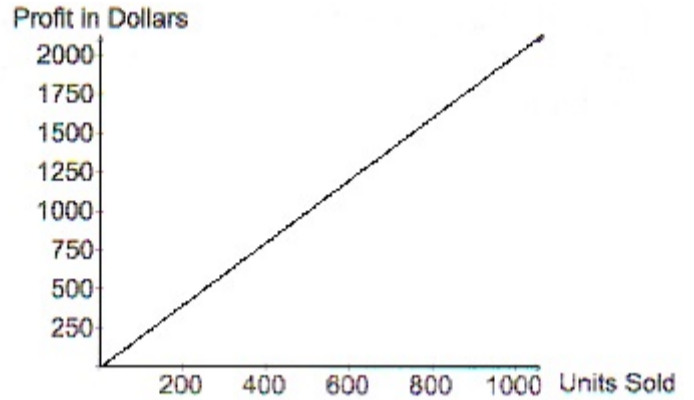
6. The graph below shows the distance traveled by a vehicle over time. For which portion of the journey was the vehicle traveling the fastest?

- A) A to B
 B) B to C
 C) C to D
 D) D to E



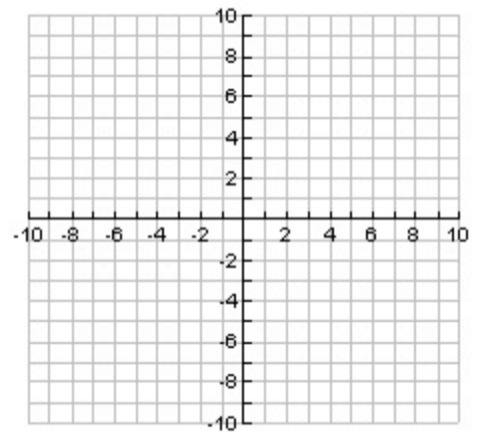
7. This graph represents profit per unit sold. What is the profit, in dollars, for sales of 500 units?

- A) \$200
 B) \$250
 C) \$750
 D) \$1000



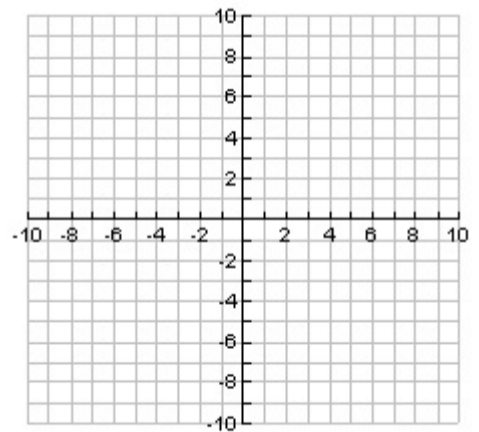
8. The points (0, 0), (3, 1) and (6, 2), when graphed lie on a line. What is the equation of the line containing these points?

- A) $y = -\frac{1}{3}x + 1$
 B) $y = -\frac{1}{3}x$
 C) $y = \frac{1}{3}x$
 D) $y = \frac{1}{3}x + 1$



9. Which is the equation of the line with slope $\frac{3}{2}$ and passing through $(-2, 5)$?

- A) $y = \frac{3}{2}x + 2$
 B) $y = \frac{2}{3}x + 6$
 C) $y = \frac{3}{2}x + 8$
 D) $y = \frac{2}{3}x + 8$

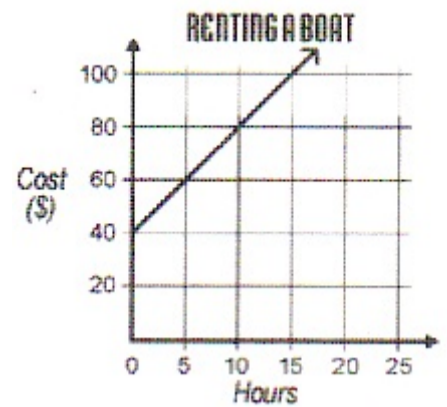


10. What is the y-intercept of the line $y = \frac{-3}{4}x + 6$?

- A) (-6, 0) B) (0, -6) C) (0, 6) D) (6, 0)

11. The graph shown represents the cost of renting a boat over time. What is the hourly charge to rent the boat?

- A) \$1.00
- B) \$4.00
- C) \$20.00
- D) \$40.00



12. What is the slope of the line $y = -4$?

- A) -4
- B) 0
- C) 4
- D) undefined

13. Which line has the steepest slope?

- A) $y = -4x + 1$
- B) $y = -3x + 2$
- C) $y = x - 3$
- D) $y = 2x + 4$

14. What is the equation of a vertical line that passes through (4, 5)?

- A) $x = 4$
- B) $x = 5$
- C) $y = 4$
- D) $y = 5$

15. What is the y-intercept of the line $x = 3$?

- A) -3
- B) 3
- C) 0
- D) there is no y-intercept

16. What is the equation of a line with a slope of 4 and a y-intercept of -3?

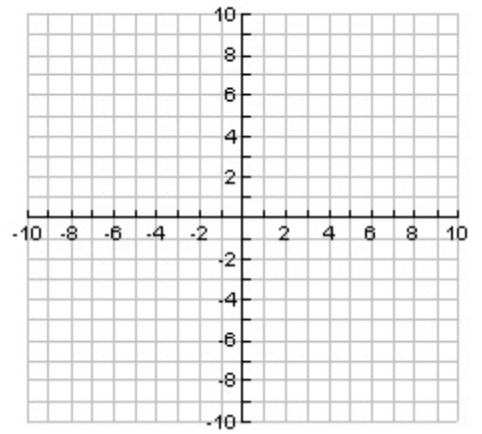
- A) $y = -3x - 4$
- B) $y = -3x + 4$
- C) $y = -4x - 3$
- D) $y = 4x - 3$

17. What is the equation of the line whose slope is 0 and passes through the point (5, 7)?

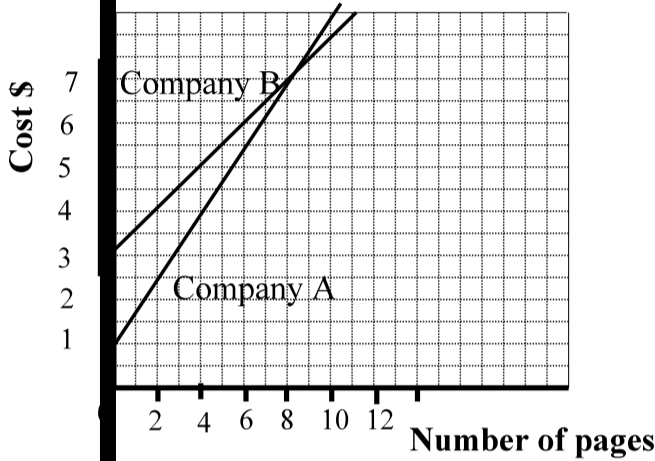
- A) $x = 5$
- B) $x = 7$
- C) $y = 5$
- D) $y = 7$

18. If $(3, 2)$ is a point on the line with equation $y = 3x + b$ determine the value of b .
(Use the graph if you wish.)

- A) -7
- B) -3
- C) 3
- D) 7



Use the graph below to answer questions 19 - 22.



19. The cost of binding a book depends on the number of pages in a book. The above graph shows two different price structures for two different companies. How much money will you have to pay up front for company A?
- A) \$0.50
 - B) \$0.75
 - C) \$1
 - D) \$3
20. What is the rate charged per page for company B?
- A) \$0.50/page
 - B) \$0.75/page
 - C) \$1/page
 - D) \$3/page
21. What is the independent variable?
- A) The book.
 - B) The cost of binding the book.
 - C) The cost of paying the person binding the book
 - D) The number of pages in the book.
22. Write an equation for company A to represent the cost of binding a book.
- A) $y = 0.50x + 3$
 - B) $y = x + 0.75$
 - C) $y = 0.75x + 1$
 - D) $y = 1.33x + 1$

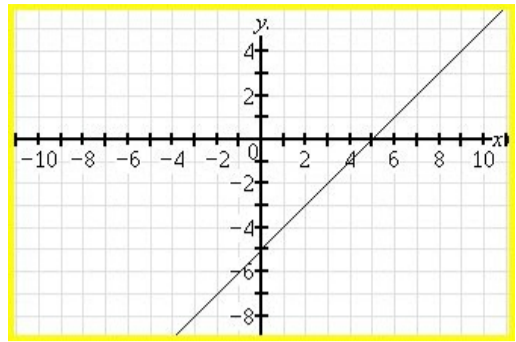
23 Give the equation of the following graph:

A) $y = -x - 5$

B) $y = -x + 5$

C) $y = x - 5$

D) $y = x + 5$



24. The given table shows the cost of a taxi cab after traveling a certain number of kilometers. What equation represents the cost of the taxi?

# of kilometers (k)	0	1	2	3	4
cost of taxi (C)	2	2.15	2.3	2.45	2.6

A) $C = 0.15k + 2$

B) $C = 2k + 0.15$

C) $C = 1k + 2$

D) $C = 2.15k$