

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

Date: \_\_\_\_\_

## Incoming 8th Grade Summer Work

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1) Find the greatest common factor of 48 and 60.

2) Evaluate:  $-3 - (-2)$

3) Evaluate:  $-4 - 5$

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4)  $-5 + 10$

5) Evaluate:  $(-2)^3$

6) Evaluate:  $\frac{3}{5} - \frac{1}{3}$

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7) Simplify:  $8x - 3x + 5x$

8) Simplify:  $-4(-2x - 5)$

9) Simplify:  $(2x - 1) + 2(x + 6)$

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10) Find the missing value:  $\frac{2}{x} = \frac{6}{15}$

11) Estimate the  $\sqrt{38}$  to the nearest tenth.

- ☐ 5.4
- ☐ 6.2
- ☐ 6.8
- ☐ 5.9

12) Find the product:  $2\left(\frac{2}{3}\right)$

- ☐  $2\frac{2}{3}$
- ☐  $\frac{4}{6}$
- ☐  $\frac{4}{3}$
- ☐ 3

13) Evaluate:  $2 \times 4 - 6 \div 3$

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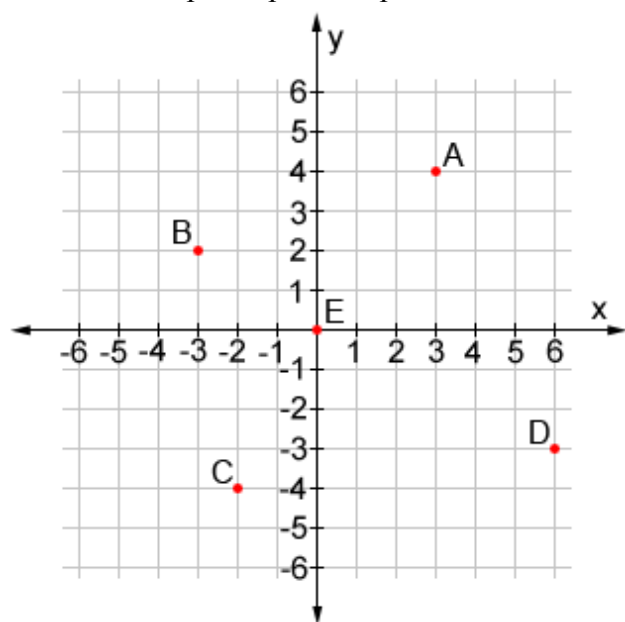
14) Evaluate:  $10 \div 5(3 + 4)$

15) At a baseball game, 3 adults pay \$20/ticket and 4 children pay \$5/ticket. What is the total cost of the tickets?

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16) What ordered pair represents point A?

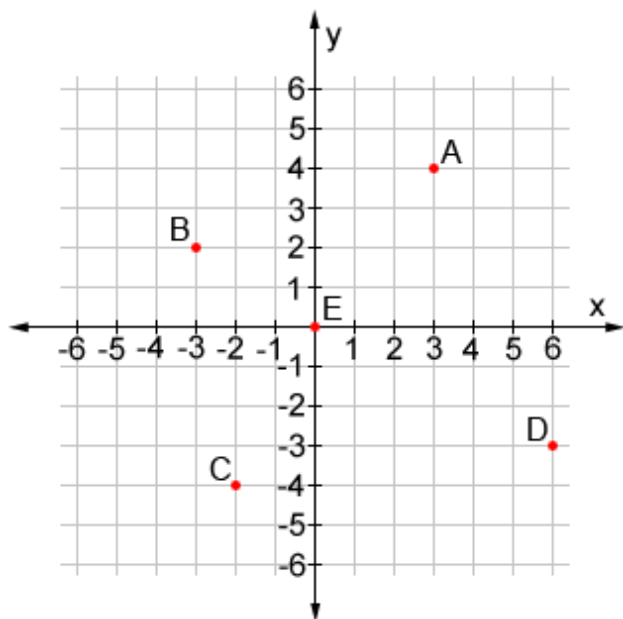


- ☐ (3,4)
- ☐ (4,3)
- ☐ (0,0)
- ☐ (-4,-3)

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17) What ordered pair represents point B?

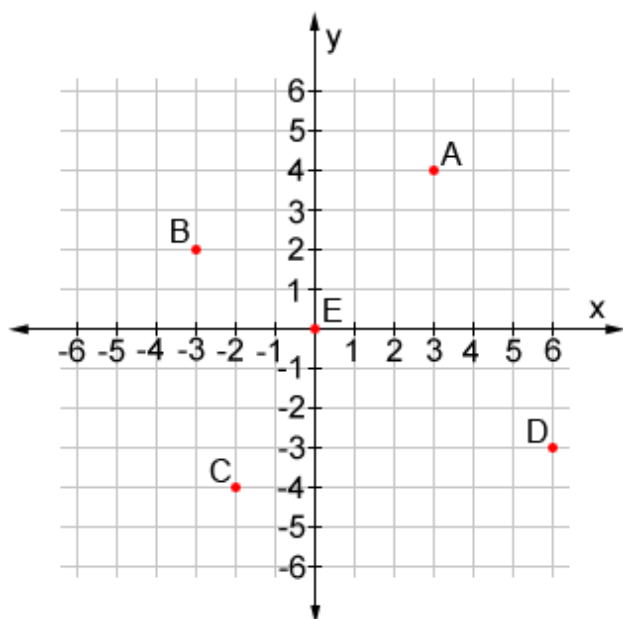


- ☐ (3,-2)
- ☐ (-2,3)
- ☐ (-3,2)
- ☐ (2,-3)

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18) What ordered pair represents point C?



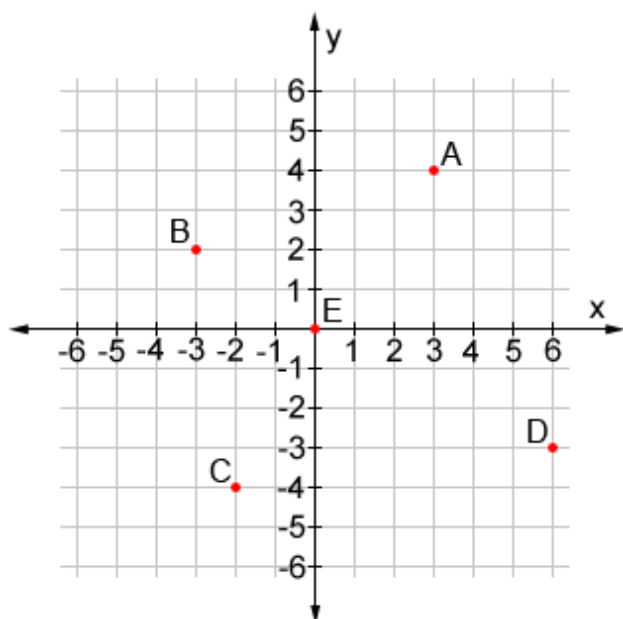
- ☐ (2,4)
- ☐ (4,2)
- ☐ (-4,-2)
- ☐ (-2,-4)



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19) What ordered pair is represented in Point D?



- ☐ (-3,6)
- ☐ (6,-3)
- ☐ (-6,-3)
- ☐ (3,-6)

20) Evaluate:  $-36 \div 9$

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21) Evaluate:  $(-7) \times (-2)$

22) Evaluate:  $(-12) + 4$

23) A letter is randomly selected from the word ACCOMMODATION. Which events have the same likelihood of occurring as selecting an A? Select all that apply.

- ☐ selecting a D
- ☐ selecting an O
- ☐ selecting a C
- ☐ selecting a T
- ☐ selecting an M

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- 24) A clown is filling water balloons for a show. It takes the clown 15 minutes to fill 20 balloons. Which equation relates the total number of balloons  $y$  to the time  $x$ , in minutes, it takes to fill each balloon?

- ☐  $y = \frac{3}{4}x$
- ☐  $y = \frac{4}{3}x$
- ☐  $y = 15x$
- ☐  $y = 20x$

- 25) What is the solution to  $\frac{x}{-6} > 3$ ?

- ☐  $x < -2$
- ☐  $x > -2$
- ☐  $x < -18$
- ☐  $x > -18$

- 26) The table shows the cost for different painting jobs based on the number of hours the job takes.

<b>Number of Hours</b>	4	6	9	12
<b>Cost</b>	\$60	\$90	\$135	\$180

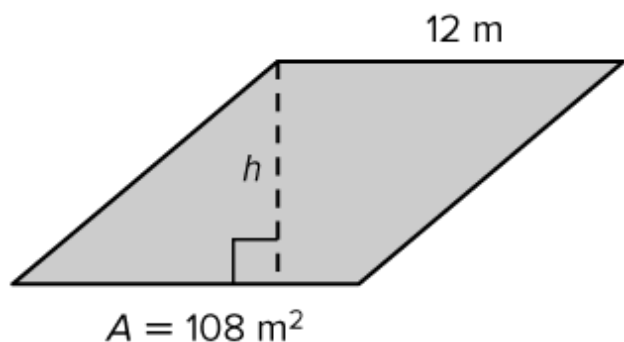
What is the constant of proportionality?

- ☐ 2
- ☐ 3
- ☐ 15
- ☐ 20

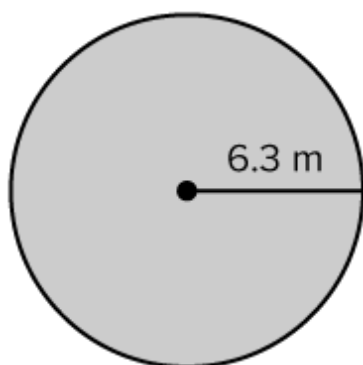
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27) What is the missing dimension  $h$ , in meters, of the parallelogram?



28) What is the area of the circle? Round to the nearest tenth. Use  $\pi = 3.14$ .

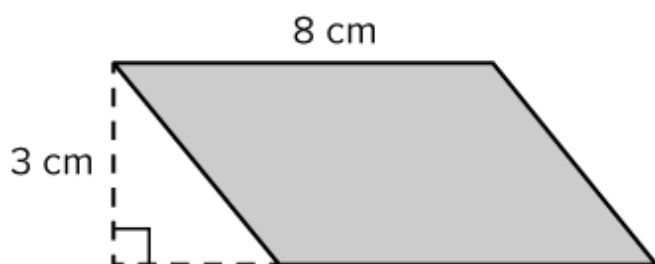


- ☐  $39.7\text{ m}^2$
- ☐  $62.3\text{ m}^2$
- ☐  $124.6\text{ m}^2$
- ☐  $249.3\text{ m}^2$

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29) What is the area of the parallelogram? (Hint: Use the formula  $A = bh$ .)



- ☐ 11 cm<sup>2</sup>
- ☐ 22 cm<sup>2</sup>
- ☐ 24 cm<sup>2</sup>
- ☐ 32 cm<sup>2</sup>

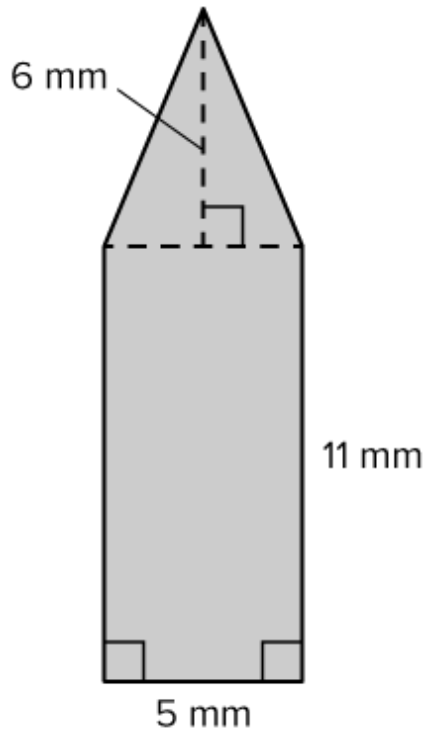
30) What is the solution to  $x - 6 \geq 3$ ?

- ☐  $x \geq -9$
- ☐  $x \leq -3$
- ☐  $x \leq 3$
- ☐  $x \geq 9$

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- 31) What is the area of the composite figure in square millimeters? Round your answer to the nearest tenth if needed.

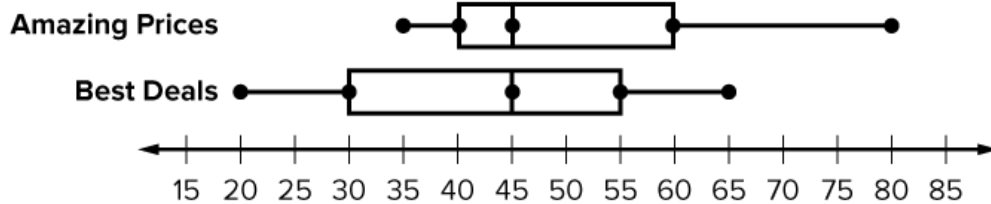


- 32) A painter is buying brushes. If 8 brushes cost \$70, which equation relates the total cost  $y$ , in dollars, to the number of brushes  $x$ ?
- ☐  $y = 70x$
  - ☐  $y = 17.5x$
  - ☐  $y = 8.75x$
  - ☐  $y = 8x$

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- 33) The double box plot shows the number of daily customers at two electronics stores. Which statements correctly compare and make an inference about the data?



- ☐ The data for Amazing Prices has a greater range.
  - ☐ The data for Best Deals has a greater interquartile range.
  - ☐ The data for Amazing Prices has a greater median.
  - ☐ On a randomly selected day, Amazing Prices is likely to have more customers.
  - ☐ On a randomly selected day, Best Deals is likely to have fewer than 60 customers.
- 34) A quality expert can test 18 units in 32 minutes. If there are 400 units to be tested, about how long will it take to test them?
- ☐ 117 minutes
  - ☐ 225 minutes
  - ☐ 400 minutes
  - ☐ 711 minutes
- 35) A school group of 46 students is on a farm tour. Each cart for the riding tour holds 8 people. Which inequality represents the number of carts  $x$  needed for the students?
- ☐  $x \geq 8$
  - ☐  $6x \geq 46$
  - ☐  $8x \geq 38$
  - ☐  $8x \geq 46$

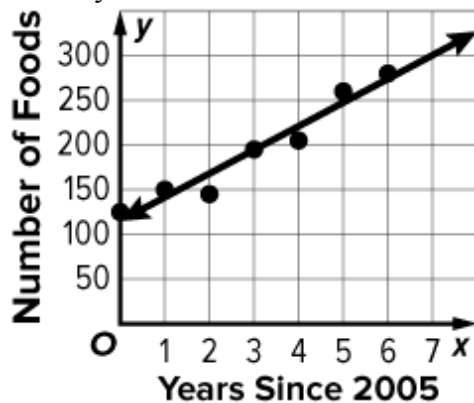
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36) What is the solution to the inequality  $\frac{n}{(-5)} > -25$ ?

- ☐  $n < -125$   
☐  $n > -125$   
☐  $n < 125$   
☐  $n > 125$

37) The scatter plot shows the number of years since a store opened in 2005 and average number of food items sold per day. Use the line of fit to make a conjecture about the number of food items if it has been 7 years since 2005.



\_\_\_\_\_ Items

38) What is the solution to the inequality  $5x + 12 < 7$ ?

39) Solve for x:  $4x = 12$



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40) Solve for x:  $x + 7 = 12$

41) What is the slope of the equation  $y = 7x - 4$ ?

42) What is the slope of the equation  $y = -x + 5$ ?

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43) What is the slope of the equation  $y = \frac{2}{3}x + 10$

44) Evaluate:  $\sqrt{49}$

45) Evaluate:  $\sqrt{121}$

46) Use properties of equality to solve the equation. Check your solution.

$$5c + 3 = 18$$

$$c = \underline{\hspace{2cm}}$$

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- 47) Use properties of equality to solve the equation. Check your solution.

$$\frac{y}{3} + 5 = 14$$

$$y = \underline{\hspace{2cm}}$$

- 48) Solve the equation or formula for the variable indicated

$$t = 7g, \text{ for } g$$

- 49) Write an equation of a line in slope-intercept form with the given slope and  $y$ -intercept.

slope: 3,  $y$ -intercept:  $-5$

- 50) Write the equation in slope-intercept form.

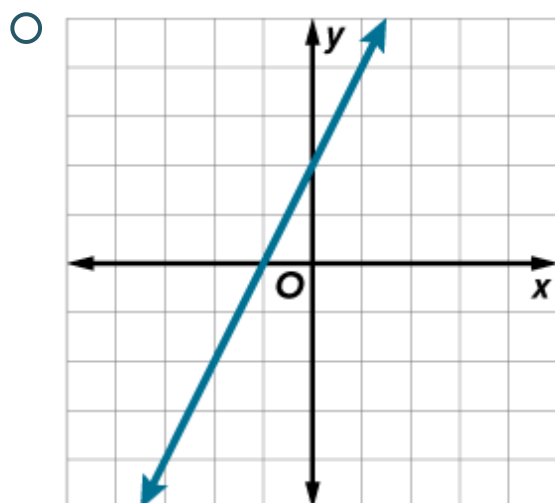
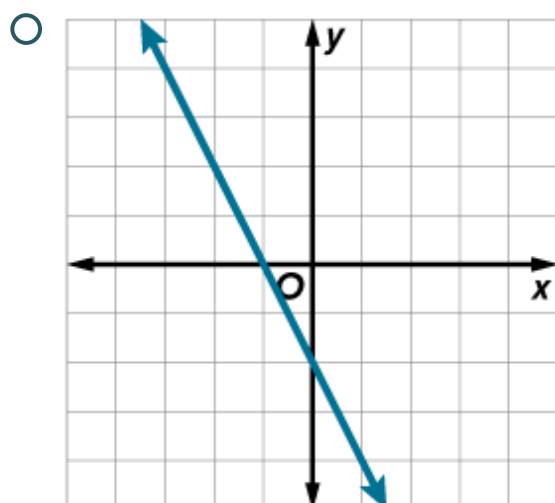
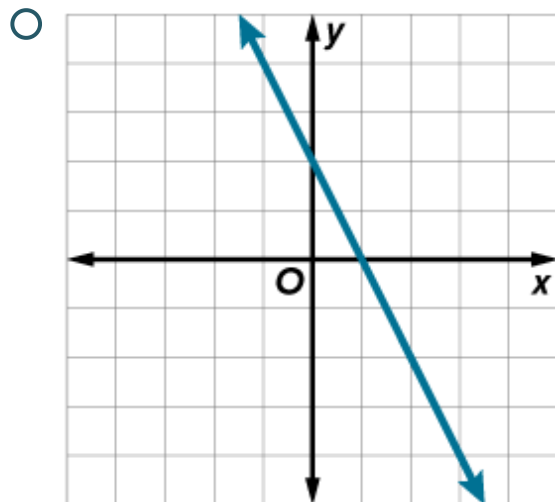
$$12x + 2y = -14$$

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51) Graph a linear function with the given slope and  $y$ -intercept.

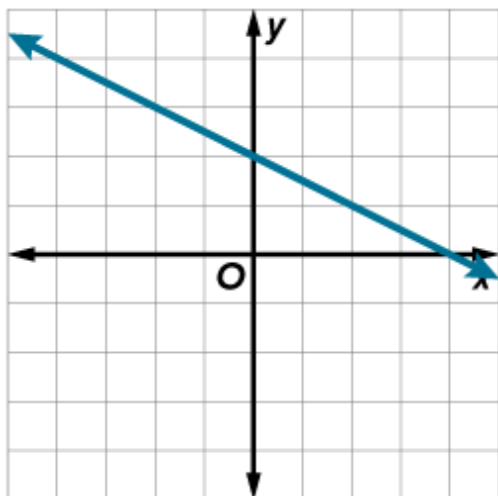
slope:  $-2$ ,  $y$ -intercept:  $2$



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52) Find the slope and the y-intercept of the line.

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

slope:

y-intercept:

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53) Find the rate of change of the function by using two points from the table.

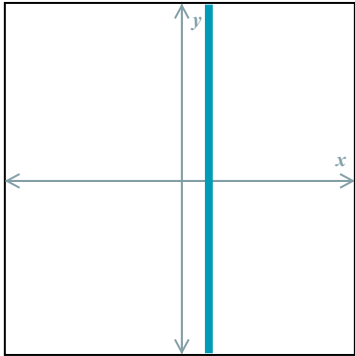
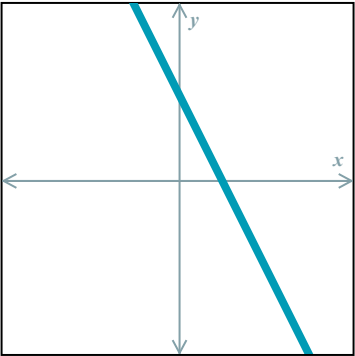
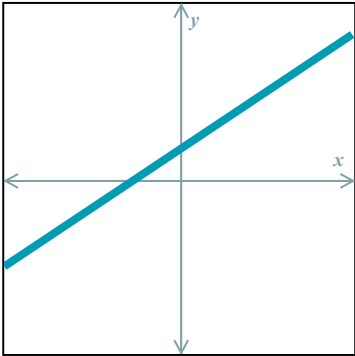

1	15
2	11
3	7
4	3

54) Find the rate of change of the function by using two points from the table. Write in the simplest form.

2	5
4	8
6	11
8	14

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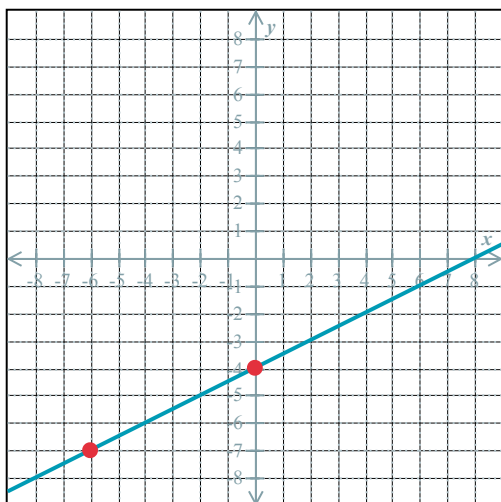
55) For each line, determine whether the slope is positive, negative, zero, or undefined.

Line 1	Line 2	Line 3	
			
<div><input type="radio"/> Positive</div> <div><input type="radio"/> Negative</div> <div><input type="radio"/> Zero</div> <div><input type="radio"/> Undefined</div>	<div><input type="radio"/> Positive</div> <div><input type="radio"/> Negative</div> <div><input type="radio"/> Zero</div> <div><input type="radio"/> Undefined</div>	<div><input type="radio"/> Positive</div> <div><input type="radio"/> Negative</div> <div><input type="radio"/> Zero</div> <div><input type="radio"/> Undefined</div>	<div><input type="radio"/> Positiv</div> <div><input type="radio"/> Negat</div> <div><input type="radio"/> Zero</div> <div><input type="radio"/> Undef</div>

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56) Write the equation of the line below in slope-intercept form.



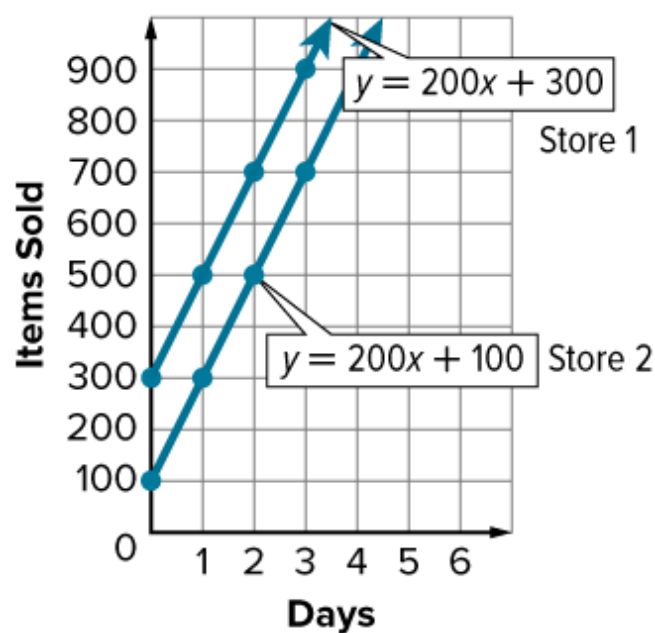


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57) Fill in the blanks using the available answer choices.

**BUSINESS** The number of items sold at Store 1 can be represented by  $y = 200x + 300$ , where  $x$  represents the number of days and  $y$  represents the number of items sold. The number of items sold at Store 2 can be represented by  $y = 200x + 100$ , where  $x$  represents the number of days and  $y$  represents the number of items sold. Look at the graph of the system of equations and determine whether it has *no* solution, *one* solution, or *infinitely many* solutions.



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(Blank 1)

Blank 1 options

- infinitely many solutions
- no solution
- one solution

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58) Simplify the expression. Write the answer in exponent form using the given base.

$$w^6 \cdot w =$$

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59) Simplify.

$$y^5 \cdot 5$$

$$y^5 \cdot 5 =$$

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60) Simplify.

$$\frac{a^4}{a} =$$