

Name: _____ Date: _____ Hour: _____

Expressions & Equations – 8.EE.3

1) Which of the following has a value greater than 200 but less than 2,000

A. 2.5×10^3 C. 7.2×10^4

B. 3.2×10^2 D. 2.8×10^1

2) Which of the following has a value greater than 500 but less than 1,000

A. 5.1×10^2 C. 9.2×10^3

B. 3.8×10^2 D. 5.8×10^1

3) Which of the following has a value greater than 450 but less than 890

A. 7.4×10^3 C. 3.8×10^2

B. 6.2×10^1 D. 8.8×10^2

4) In 2016, the population of the United States was approximately 3.24×10^8 . It is expected that the population will be about 3.98×10^8 in 2050. Which shows the growth population, written in scientific notation?

A. 7.4×10^{-1} C. 7.4×10^8

B. 7.4×10^7 D. 7.4×10^{-2}

5) A small town in Kansas started with a population of 2,300 people 80 years ago. Now, the town has experienced significant growth and has a population of about 3,234,956 people. Approximately how many times larger is the current population in the Kansas town than it was 80 years ago?

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Expressions & Equations – 8.EE.4

Write each number in scientific notation

1. 27,001

2. 0.34156020

3. 0.0089

4. 134

5. 901,034

6. 0.000004

7. There are about 2700000000000000 red blood cells in the human body.

8. It is 380000000 meters from the Earth to the moon

9. Americans drink 145000000000 cups of coffee per year.

10. A fly weighs 0.0000000000431 times as much as an elephant.

11. What is 1.47×10^{-1} ? Is this the same as 147 thousandths?

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Expressions & Equations – 8.EE.4

State whether the following is in scientific notation or not. If it is not explain why.

1. 12.345×10^2

2. 3.42×10^{-5}

3. 2×10^4

4. 0.321×10^3

5. 3.21×10^0

Solve the following:

6. $(2 \times 10^3) \times (4 \times 10^2)$

7. $(3 \times 10^5) \times (5 \times 10^4)$

8. $(8 \times 10^6) \div (4 \times 10^3)$

9. $(4 \times 10^2) \div (8 \times 10^7)$

10. $(9 \times 10^2) + (1 \times 10^4)$

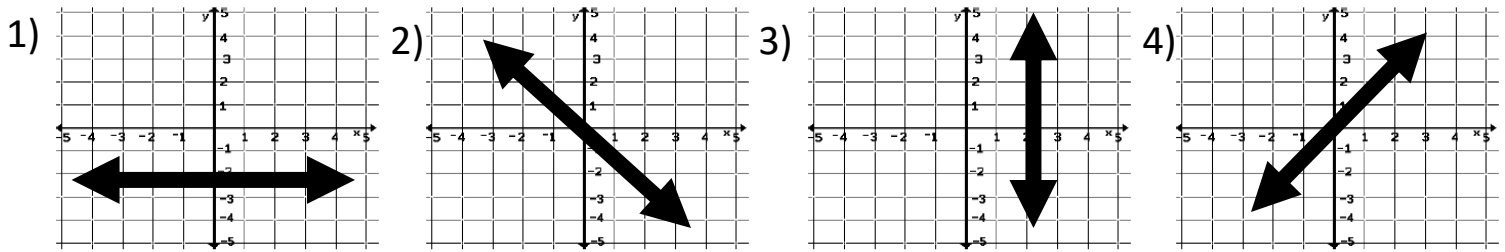
11. $(5 \times 10^5) + (2 \times 10^4)$

12. $(5 \times 10^3) - (8 \times 10^2)$

13. $(7 \times 10^{10}) - (3.5 \times 10^8)$

Expressions & Equations – 8.EE.5

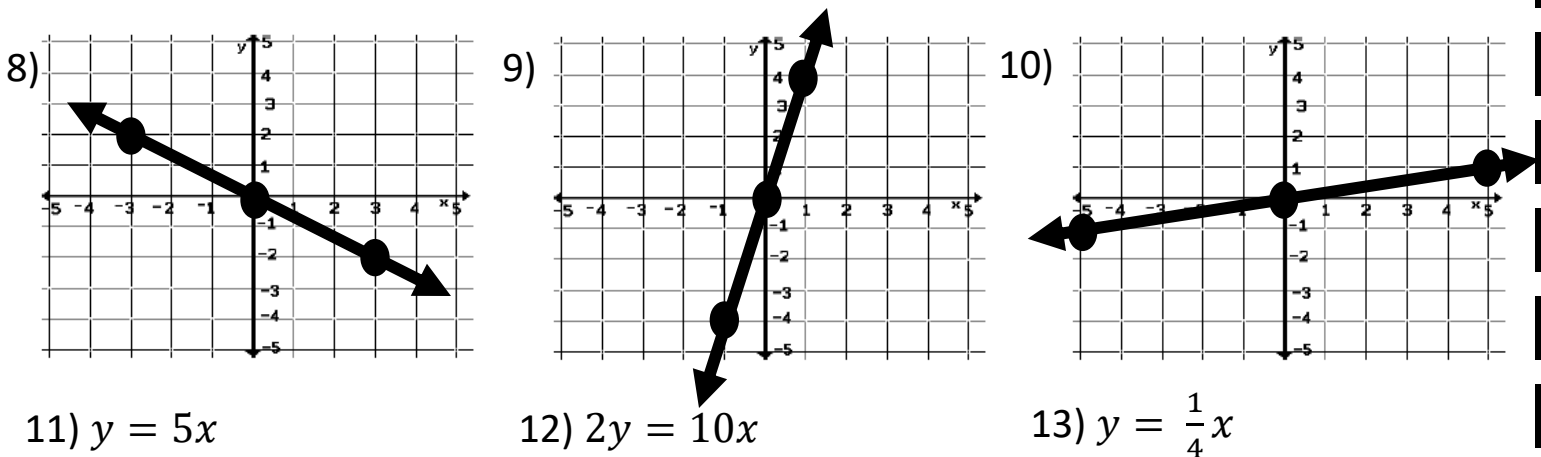
Determine if the following graphs have a slope that is positive, negative, zero, or undefined.



Determine if the following statements are true or false. If false make the statement true.

- 5) _____ A proportional relationship has a constant rate of change.
- 6) _____ A proportional relationship has a graph that is linear or non-linear.
- 7) _____ A proportional relationship always passes through the point (1, 1).

Find the slope or unit rate of the proportional relationships shown:



14)

Week	1	2	5	10
Amount	120	140	200	300

15)

Time (hours)	5	10	15	20
Distance (miles)	25	50	75	100

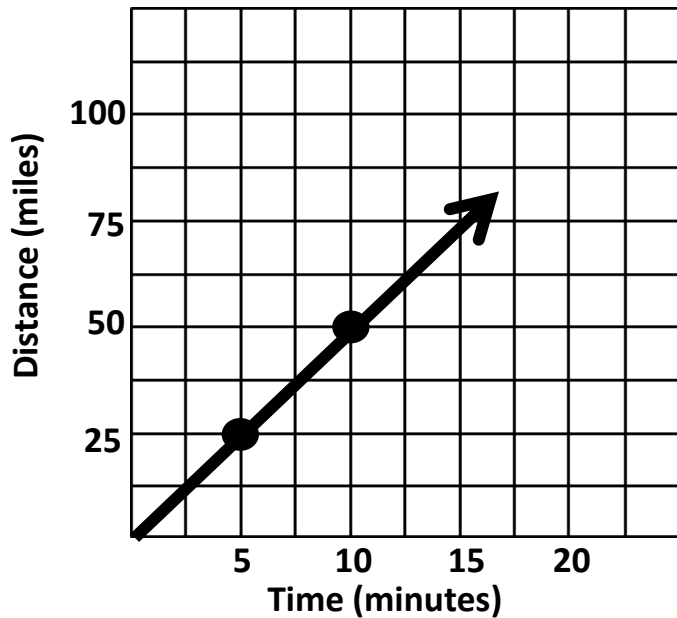
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Expressions & Equations – 8.EE.5

1) Compare the following graph and table to determine which object is moving at a greater speed and explain your answer.

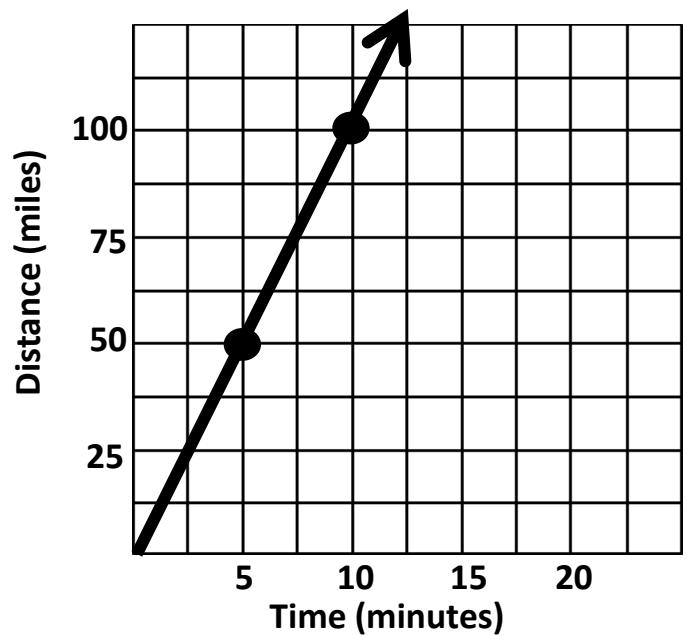


Time (hours)	4	8	12	16
Distance (miles)	15	30	45	60

2) Compare the following equation and graph to determine which object is moving at a greater speed and explain your answer.

$$d = 15t$$

Where d = distance
(miles)
and t = time (minutes)



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Expressions & Equations – 8.EE.6

1. What is slope intercept form of a linear equation? _____

Find the slope and y – intercept of each of the following lines:

2. $y = 4x - 6$

$m =$

$b = (\quad , \quad)$

3. $y = -x - 4$

$m =$

$b = (\quad , \quad)$

4. $y = 3x$

$m =$

$b = (\quad , \quad)$

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

$m =$

$b = (\quad , \quad)$

6. $y = 2x - 5$

$m =$

$b = (\quad , \quad)$

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

$m =$

$b = (\quad , \quad)$

Write an equation in slope intercept form for the following problems:

8. slope = 6 and y – intercept (0, -8)

9. slope = -1 and y – intercept (0, 2)

10. slope = $\frac{4}{5}$ and y – intercept (0, -1)

11. slope = -3 and y – intercept (0, 5)

12. slope = 2 and y – intercept (0, 3)

13. slope = $\frac{2}{3}$ and y – intercept (0, 0)

14. What is the slope formula? _____ where (x_1, y_1) and (x_2, y_2)

Find the slope of the line that passes through each pair of points.

Show all your work!

15. (8, 7) (3, 6)

16. (3, 2) (5, 4)

17. (-2, -2) (-4, 1)

18. (3, 2) (3, -2)

19. (3, -6) (2, -4)

20. (0, 4) (4, 4)

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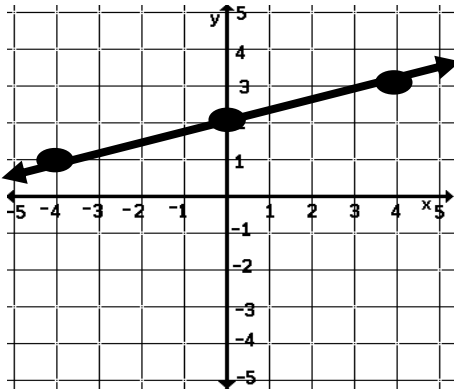
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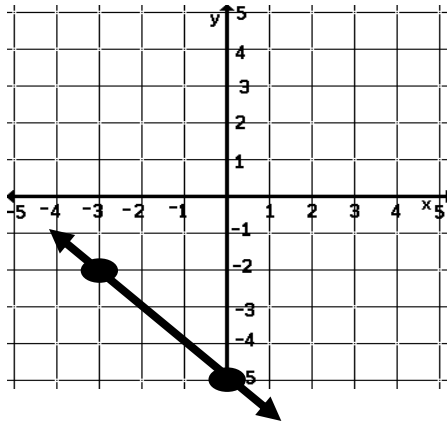
Expressions & Equations – 8.EE.6

Write the equation in slope intercept form for the following graphs:

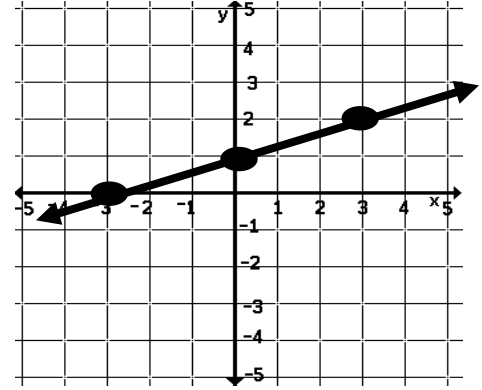
1) _____



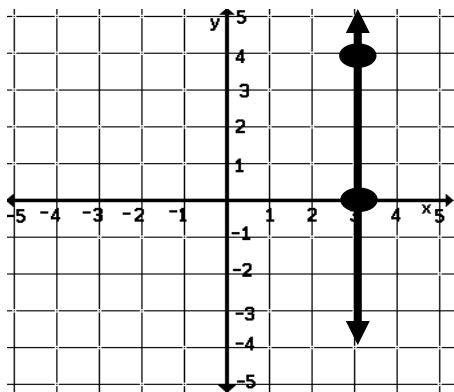
2) _____



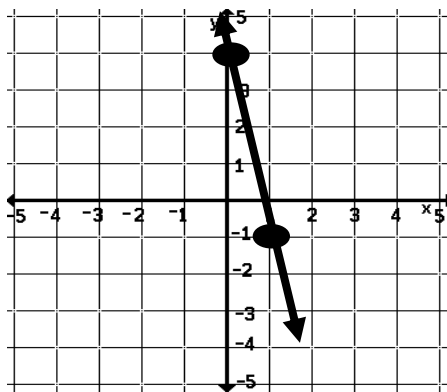
3) _____



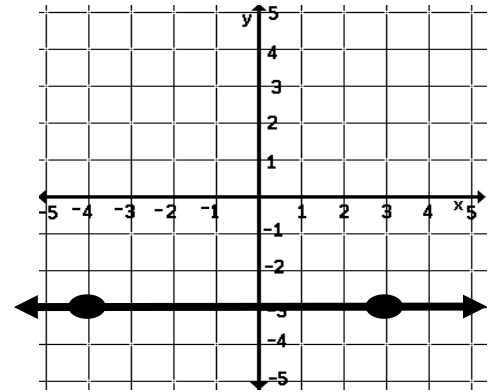
4) _____



5) _____

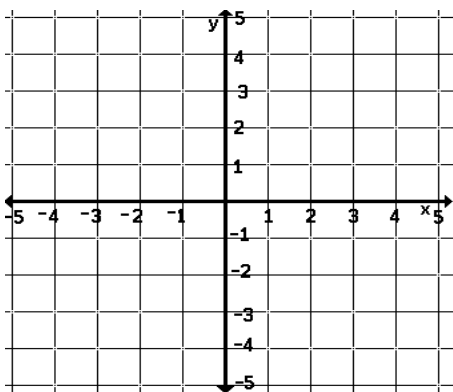


6) _____

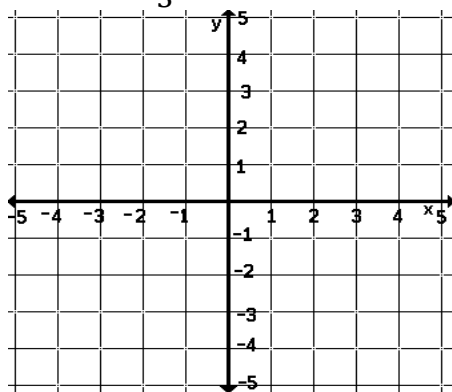


Graph the following equations:

7) $y = 2x + 3$



8) $y = -\frac{1}{3}x - 4$



9) $y = -x + 1$

