Equations and Linear Functions

Name: _____

1. If 8x = -4(x + 3) then x equals:
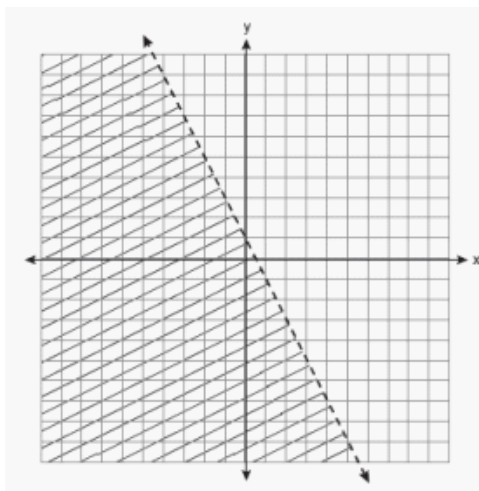
    [A] -1

    [B] 1

    [C] ¾

    [D] ¼

2. Solve for x: $9x^2 - c = d$

    [A] $x = \frac{\sqrt{d+c}}{3}$

    [B] $x = 2\frac{d+c}{9}$

    [C] $x = \frac{-9dc}{2}$

    [D] $x = \sqrt{9cd}$

3. Which inequality is represented by the graph at the right?

[A] $y < -2x + 1$

[B] $y < 2x + 1$

[C] $y < -\frac{1}{2}x + 1$

[D] $y < \frac{1}{2}x + 1$

4. Jared can run 520 yards in one minute. How fast does he run in feet per second?
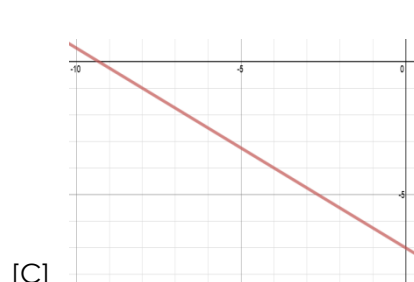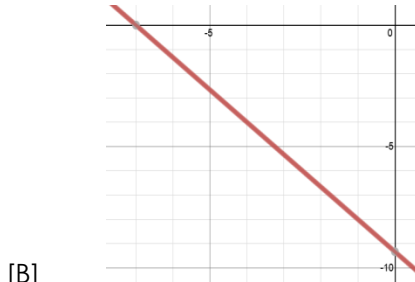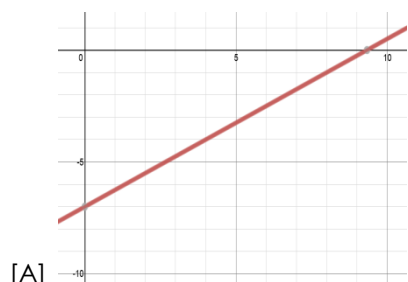
    [A] 12   [B] 26   [C] 1560   [D] 16

5. There are three consecutive integers such that the sum of the two smallest integers is 17 less than three times the largest. What is the smallest integer?

    [A] 5   [B] 7   [C] 12   [D] 6

6. Which expression is equivalent to: $(16x^{-6}y^4z^8)^{-\frac{1}{4}}$

    [A] $16x^{\frac{3}{2}}yz^2$ [B] $2x^2yz^2$ [C] $\frac{x^{\frac{3}{2}}}{2yz^2}$ [D] $\frac{x^{\frac{3}{2}}}{16yz^2}$

7. Which graph below displays the equation 3x – 4y = 28

[A]   [B]   [C]

8. Compare the slope of f(x) = -2x + 3 and the slope of the chart of g(x) below:

x	2	4	6	8
g(x)	-8	-2	4	10

What is the positive difference between the slopes of f(x) and g(x)?

[A] 1   [B] 5   [C] 8   [D] 17

9. Gregory teaches martial arts. He charges a one-time processing fee of $5.00 and the cost of the classes is shown below. Let x represent the number of classes and y represent the cost of classes.

Number of Classes, x	1	2	3	4
Cost of Classes(not including processing fee), y	$15.00	$27.00	$39.00	$51.00

Based on this information, what will it cost to take 10 classes?

[A] $123   [B] $128   [C] $118   [D] $153

10. Jerami is going to deposit an equal amount of money into a checking account each month until he has saved $2,000. The amount of money, y, in the account after x months can be modeled by the equation y = 35x + 250.

What does the slope of the graph of the equation represent?

[A] The amount of money deposited monthly

[B] The amount of money originally in the account

[C] The number of months it would take to earn $250

[D] The number of months it would take to reach $2,000

11. Find the range of the function represented in the graph.
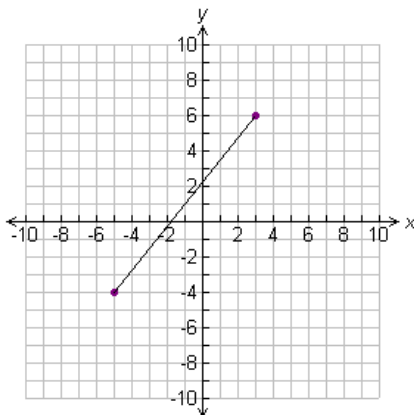
[A] The range consists of values from -5 to 3.

[B] The range consists of values from -4 to 6.

[C] The range consists of values from -5 to 6.

[D] The range consists of values from -4 to 3.

12. Which equation represents the line passing through the points (3, 2) and (–9, 6)?

   [A] $x - 3y = 9$

   [B] $x + 3y = 9$

   [C] $3x - y = -9$

   [D] $3x + y = 9$

13. Which of the following represents the linear equation $3(x+2) = 12 - 2y$ in standard form?

   [A] $y = -3/2x + 3$

   [B] $y = 3/2x - 3$

   [C] $3x - 2y = 10$

   [D] $3x + 2y = 6$