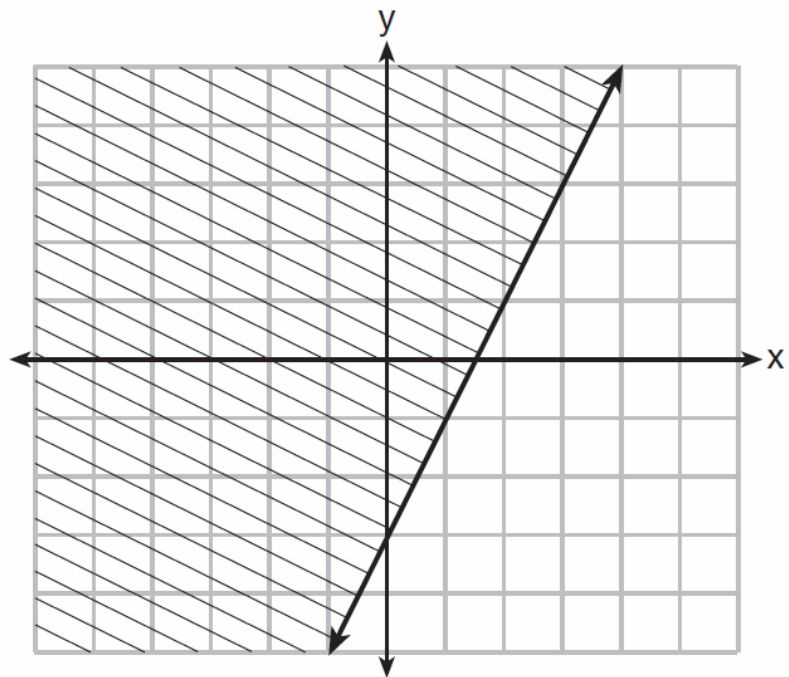


Algebra Quick Quiz 01102020

Question 1.

The graph of an inequality is shown below.



a) Write the inequality represented by the graph.

Question 2

$$(-2x^2 + 6x + 1) - 2(4x^2 - 3x + 1) =$$

- A $6x^2 - 1$
- B $-10x^2 - 1$
- C $6x^2 + 12x - 1$
- D $-10x^2 + 12x - 1$

Question 3.

The total area of a rectangle is $4x^4 - 9y^2$.
Which factors could represent the length times width?

- A $(2x^2 - 3y)(2x^2 + 3y)$
- B $(2x^2 + 3y)(2x^2 + 3y)$
- C $(2x - 3y)(2x - 3y)$
- D $(2x + 3y)(2x - 3y)$

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Question 4.

Which product of factors is equivalent to $(x + 1)^2 - y^2$?

- A $(x + 1 + y)^2$
- B $(x + 1 - y)^2$
- C $(x - 1 + y)(x - 1 - y)$
- D $(x + 1 + y)(x + 1 - y)$

Question 5.

Which expression shows the complete factorization of $12x^2 - 147$?

- A** $(3x - 7)(4x + 2)$
- B** $(4x - 21)(3x + 7)$
- C** $12(x - 7)(x + 7)$
- D** $3(2x - 7)(2x + 7)$

Question 6.

There are two numbers with the following properties.

- 1) The second number is 3 more than the first number.**
- 2) The product of the two numbers is 9 more than their sum.**

Which of the following represents possible values of these two numbers?

- A** $-6, -3$
- B** $-4, -1$
- C** $-1, 4$
- D** $-3, 6$

Question 7.

Jenny is solving the equation $x^2 - 8x = 9$ by completing the square. What number should be added to both sides of the equation to complete the square?

- A 2
- B 4
- C 8
- D 16

Question 8.

Which of the following *most* accurately describes the translation of the graph $y = (x + 3)^2 - 2$ to the graph of $y = (x - 2)^2 + 2$?

- A up 4 and 5 to the right
- B down 2 and 2 to the right
- C down 2 and 3 to the left
- D up 4 and 2 to the left

Question 9.

Which of the following sentences is true about the graphs of $y = 3(x - 5)^2 + 1$ and $y = 3(x + 5)^2 + 1$?

- A Their vertices are maximums.
- B The graphs have the same shape with different vertices.
- C The graphs have different shapes with different vertices.
- D One graph has a vertex that is a maximum, while the other graph has a vertex that is a minimum.

Question 10.

What are the x -intercepts of the graph of $y = 12x^2 - 5x - 2$?

- A 1 and $-\frac{1}{6}$
- B -1 and $\frac{1}{6}$
- C $\frac{2}{3}$ and $-\frac{1}{4}$
- D $-\frac{2}{3}$ and $\frac{1}{4}$

Bonus Question

Question 11

A gardener is planting two types of trees:

Type A is three feet tall and grows at a rate of 15 inches per year.

Type B is four feet tall and grows at a rate of 10 inches per year.

Algebraically determine exactly how many years it will take for these trees to be the same height.