

Bellwork Alg 2 Monday, November 5, 2018

NO calculator can be used on these questions.

1. Which of the following ordered pairs (x,y) satisfies both equations $y = x^2 + 3x - 4$ and $x = y - 4$?

- A) $(0,-4)$ B) $(2,6)$ C) $(3,14)$ D) $(5,9)$

2. A line is graphed in the xy -plane. If the line has a positive slope and a negative y -intercept, which of the following points cannot lie on the line?

- A) $(-3,-3)$ B) $(-3,3)$ C) $(3,-3)$ D) $(3,3)$

3. In the expression below, a is an integer.

$$12x^2 + ax - 20$$

If $3x + 4$ is a factor of the above expression, what is the value of a ?

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$$y = x^2 + 3x - 4 \quad x = y - 4$$

$$\quad \quad \quad +4 \quad +4$$

$$\quad \quad \quad y = x + 4$$

$$x + 4 = x^2 + 3x - 4$$

$$-x \quad -4 \quad -x \quad -4$$

$$0 = x^2 + 2x - 8 \rightarrow$$

$$\begin{array}{c} -8 \\ +4 \quad -2 \\ +2 \end{array}$$

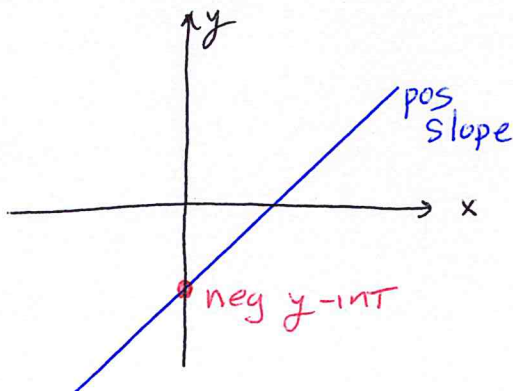
$$0 = (x+4)(x-2)$$

$$x = -4, 2$$

B is the only possible choice

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- A) $(-3,-3)$ B) $(-3,3)$ C) $(3,-3)$ D) $(3,3)$



Line will NOT pass through the second quadrant.

B is the only possible choice

3. In the expression below, a is an integer.

$$12x^2 + ax - 20$$

If $3x + 4$ is a factor of the above expression, what is the value of a ?

$$\begin{array}{r} 4x - 5 \\ 3x + 4 \overline{) 12x^2 + ax - 20} \\ \underline{-(12x^2 + 16x)} \\ (a-16)x - 20 \\ \underline{-(a-16)x - 20} \\ (a-16-(a-16))x + 0 \\ 0x + 0 \end{array}$$

$$a - 16 + 15 = 0$$

$$a - 1 = 0$$

Remainder must be zero if you divide by a factor.

$$a = 1$$