

Answer on Question #56448 – Math – Algebra

Question

5. Which of the following represents this function written in standard form. There can be multiply right answers. Check all that apply.

$$y = 2(x + 1)(x - 6)$$

- a) $y = 2x^2 - 10x - 12$
- b) $y = 2x^2 - 10x + 6$
- c) $y = 2x^2 - 5x - 12$
- d) $y = 2x^2 - 14x + 12$

Solution

$$y = 2(x + 1)(x - 6) = 2(x^2 - 6x + x - 6) = 2(x^2 - 5x - 6) = 2x^2 - 10x - 12.$$

Answer: a) $y = 2x^2 - 10x - 12$.

Question

6. Which of the following represents this function written in intercept form? There can be multiply right answers. Check all that apply.

$$y = -x^2 - x + 6$$

- a) $y = -(x - 2)(x + 3)$
- b) $y = -(x + 2)(x - 6)$
- c) $y = -(x + 2)(x + 6)$
- d) $y = (-x + 3)(x - 4)$

Solution

$$-x^2 - x + 6 = 0$$

$$D = (-1)^2 - 4 \cdot (-1) \cdot 6 = 1 + 24 = 25; \sqrt{D} = 5$$

$$x_1 = \frac{1 - 5}{-2} = 2;$$

$$x_2 = \frac{1 + 5}{-2} = -3;$$

$$y = -x^2 - x + 6 = -(x - 2)(x + 3)$$

Answer: a) $y = -(x - 2)(x + 3)$

Question

7. What are the coordinates of the vertex of the function below? Write the answer in the form (x, y) .

$$y + 9 = -6(x - 2)^2$$

Solution

The vertex form of the given function is

$$y = -6(x - 2)^2 - 9$$

The coordinates of the vertex are $(2; -9)$.

Answer: $(2; -9)$.