

Change Intercept to Standard  
form form

$$y = a(x-p)(x-q)$$

to

$$y = ax^2 + bx + c$$

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

$$\text{First} \rightarrow x \cdot x = x^2$$

$$\text{Outer} \rightarrow x \cdot 3 = 3x$$

$$\text{Inner} \rightarrow -2 \cdot x = -2x$$

$$\text{Last} \rightarrow -2 \cdot 3 = -6$$

$$y = x^2 + 1x - 6$$

$$y = -2(x+4)(x+1)$$
$$= (-2x-8)(x+1)$$

$$F \rightarrow -2x \cdot x = -2x^2$$

$$O \rightarrow -2x \cdot 1 = -2x$$

$$I \rightarrow -8 \cdot x = -8x$$

$$L \rightarrow -8 \cdot 1 = -8$$

$$y = -2x^2 - 10x - 8$$

$$y = (x+5)(x+2)$$

$$y = (5x+8)(4x+1)$$

$$y = \frac{1}{2}(x+4)(x-5)$$

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

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

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

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

$$F \quad -2x^2$$

$$O \quad -6x$$

$$I \quad -6x$$

$$L \quad -15$$

$$y = -2x^2 - 12x - 15 - 2$$

$$y = -2x^2 - 12x - 17$$

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**WRITING IN STANDARD FORM** Write the quadratic function in standard form.

38.  $y = (x + 5)(x + 2)$

39.  $y = -(x + 3)(x - 4)$

40.  $y = 2(x - 1)(x - 6)$

41.  $y = -3(x - 7)(x + 4)$

42.  $y = (5x + 8)(4x + 1)$

43.  $y = (x + 3)^2 + 2$

44.  $y = -(x - 5)^2 + 11$

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

46.  $y = 8(x + 7)^2 - 20$

47.  $y = -(9x + 2)^2 + 4x$

48.  $y = -\frac{7}{3}(x + 6)(x + 3)$

49.  $y = \frac{1}{2}(8x - 1)^2 - \frac{3}{2}$