

4.1 Honors

Converting to Standard Form

Objective: Convert quadratic equations from intercept form and vertex form to standard form by multiplying.

Converting from Intercept Form or Vertex Form to Standard Form

You can change quadratic functions from intercept form or vertex form to standard form by multiplying. Be sure to follow order of operations.

Examples

Rewrite the given functions in standard form.

$$\begin{aligned} 1. \quad y &= -3(x+5)(x-8) \\ &= -3(x^2 - 3x - 40) \\ &= -3x^2 + 9x + 120 \end{aligned}$$

$$\begin{aligned} 2. \quad f(x) &= 4(x-3)^2 + 7 \\ &= 4(x-3)(x-3) + 7 \\ &= 4(x^2 - 6x + 9) + 7 \\ &= 4x^2 - 24x + 36 + 7 \\ &= 4x^2 - 24x + 43 \end{aligned}$$