

Converting Standard Form to Vertex Form Day 2

Ex 1) Write each in vertex form. Then describe the transformation compared to the parent function.

$$f(x) = 2x^2 + 12x + 26$$

$$2(x^2 + 6x + 13) \quad 4(2) = 8$$

$$2(x^2 + 6x + 9) - 9 + 13$$

$$f(x) = 2(x+3)^2 + 8 \quad (-3, 8)$$

Shifts left 3, up 8
Vertical stretch with a factor of 2

$$y = 4x^2 - 48x + 141$$

$$4(x^2 - 12x + 35.25) \quad (-12)/4 = -3$$

$$4(x^2 - 12x + 36) - 36 + 35.25$$

$$y = 4(x-6)^2 - 3 \quad (6, -3)$$

Shifts right 6, down 3
Vertical stretch with a factor of 4

Ex 2) Write the equation for the following graph in vertex form. Then describe the transformation compared to the parent function.

