

Key

May 19th, 2017

Algebra I

BW - Converting from Standard/Vertex Form

Convert each to Vertex Form:

1.) $y = 3x^2 - 12x + 1$

$a = 3$

$y = 3(x-3)^2 - 8$

$h = x = \frac{12}{6} = 3$

$k = y = 3(3)^2 - 12(3) + 1 = -8$

3.) $y = 2x^2 - 4x + 12$

$a = 1$

$y = 1(x-1)^2 + 10$

$h = x = \frac{4}{2(2)} = 1$

$k = y = 2(1)^2 - 4(1) + 12 = 10$

Convert each to Standard Form:

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

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

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

$= 2x^2 - 8x + 8 + 3$

6.) $y = -3(x+6)^2 - 4$ $y = 2x^2 - 8x + 11$

$= -3(x+6)(x+6) - 4$

$= -3(x^2 + 12x + 36) - 4$

$= -3x^2 - 36x - 108 - 4$

$y = -3x^2 - 36x - 112$

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

$a = 1$

$h = x = \frac{6}{2(1)} = 3$

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

$y = 1(x-3)^2 - 6$

5.) $y = -(x+4)^2 - 12$

$= -(x+4)(x+4) - 12$

$= -(x^2 + 8x + 16) - 12$

$= -x^2 - 8x - 16 - 12$

$y = -x^2 - 8x - 28$