What you will learn about:
Vertex Form

Vertex Form

$y = a(x-h)^2 + k$

Vertex (h, k)

Locate the vertex of each quadratic function. Tell whether it is a maximum value or a minimum value. Find the y-intercept for each equation.

$g(x) = (x-3)^2 + 5$

$v(3,5)$

min

$(0-3)^2 + 5$

y-inter

$(0,14)$

$f(x) = 3(x-7)^2 - 12$

$v(7,-12)$

min

y-inter

$(0,135)$

$3(0-7)^2 - 12$

$3(-7)^2 - 12$

$3(49) - 12$

$147 - 12$

135

$m(x) = (x-1)^2 + 25$

Vertex $(1,25)$

min

y-inter $(0,26)$

$n(x) = -2(x+6)^2 + 20$

Vertex $(-6,20)$

max

y-inter $(0,-52)$

$-72 + 20$

Completing the Square

Find the value of c that completes the square. Write your expression as a square of a binomial.

$x^2 + 12x + c$

$x^2 - 6x + c$

$x^2 - 15x + c$

$x^2 + 11x + c$

$x^2 - \frac{25}{13}x + c$