

## SM3 VOCAB 2-3 (Intercept Form Quadratic Equation)

Standard Form Quadratic Equation: a polynomial of the form the vertical stretch factor and 'c' is the y-intercept.

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

where 'a' is

Example:  $y = 2x^2 + 11x + 30$  with VSF = 2 and y-intercept: (0, 30)

Intercept Form Quadratic Equation: a polynomial of the form the vertical stretch factor, and 'p' and 'q' are x-intercepts.

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

where 'a' is

Example:  $y = -3(x + 5)(x - 6)$  Opens downward, VSF = 3, x-intercepts: (-5, 0) and (6, 0)

X-intercept: the x-y pair where the graph crosses the x-axis. The y-value of the x-intercept is always zero.

Example: (2, 0) is a point on the x-axis or, in function notation,  $f(2) = 0$ . In general we say:  $f(x) = 0$

Y-intercept: the x-y pair where the graph crosses the y-axis. The x-value of the y-intercept is always zero.

Example: (0, 4) is a point on the y-axis or, in function notation,  $f(0) = 4$ . In general we say:  $f(0) = y$