

Let's practice identifying the characteristics that can be found by only using mathematical structure. So in vertex form, let's practice identifying the vertex. In intercept form, let's get the intercept. And standard form? Well let's then get the y-intercept.

VERTEX FORM

function	a	h	k	vertex
$y = (x - 6)^2 + 1$	1	6	1	(6, 1)
$y = (x + 4)^2 + 2$				
$y = -(x - 4)^2 - 5$				
$y = x^2$				
$y = 2(x + 7)^2 + 13$				
	1			(-4, 3)
	2			(6, 2)
	-1			(-5, -10)

INTERCEPT FORM

function	a	p	q	x-intercept(s)
$y = (x - 3)(x - 4)$	1	3	4	(3, 0) and (4, 0)
$y = (x + 5)(x - 7)$				
$y = 3(x + 3)(x + 4)$				
$y = -(x - 7)(x + 1)$				
$y = (x + 8)(x + 8)$				
	1			(-5, 0) and (5, 0)
	2			(7, 0) and (1, 0)
	-1			(-4, 0) and (-9, 0)

STANDARD FORM

function	a	b	c	y-intercept
$y = x^2 + 5x + 2$	1	5	2	(0,2)
$y = x^2 - 6x + 1$				
$y = 3x^2 + 5x - 11$				
$y = -2x^2 + x + 6$				
$y = -x^2 - 2x - 3$				
	1	1	3	(0,3)
	2	-5	-4	(0,-4)
	-1	2	9	(0,9)