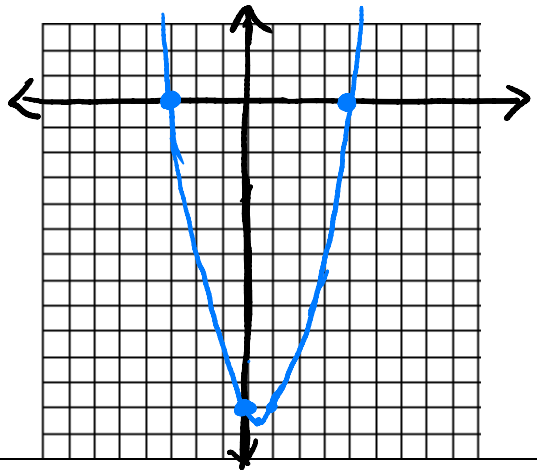
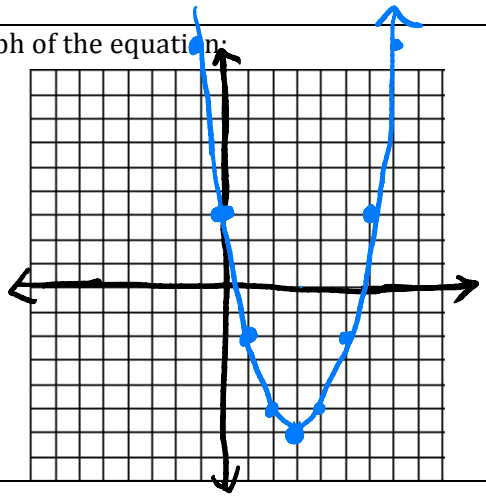
Lesson 9 I've Got a Fill-in

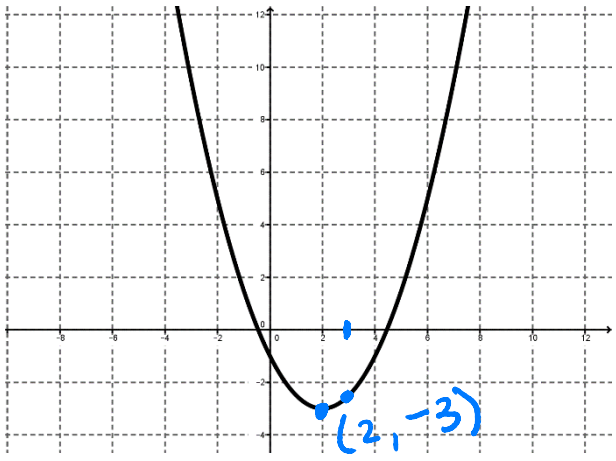
A Practice Understanding Task

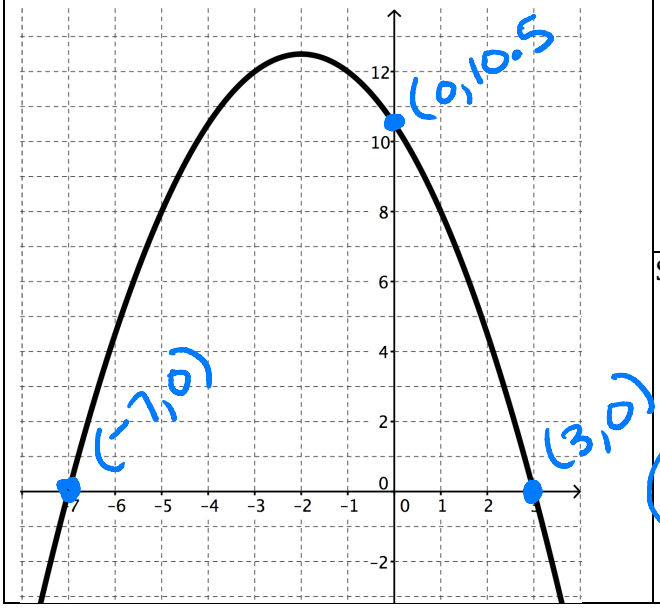
For each problem below, you are given a piece of information that tells you a lot. Use what you know about that information to fill in the rest.

1.	You get this:	Fill in this:
	$y = x^2 - x - 12$ y-int $(0,-12)$	Factored form of the equation: $y=(x-4)(x+3)$ x-int $(4,0)(-3,0)$ a.o.s. $(\frac{1}{2},-\frac{49}{4})$ $(\frac{1}{2}-4)(\frac{1}{2}+3)$ $(-\frac{7}{2})(\frac{7}{2})$
		Graph of the equation: 12.25 

2.	You get this:	Fill in this:
	$y = x^2 - 6x + 3$ (Prime (does not factor); y-int (0,3))	Vertex form of the equation:
	$y = (x^2-6x+9)+3-9$	$y = (x-3)^2-6$
	$y = (x-3)^2-6$	
	Vertex (3,-6)	Graph of the equation:



3.	You get this:	Fill in this:
		Vertex form of the equation:
		$y = \frac{1}{2}(x-2)^2-3$
		Standard form of the equation:
		$y = \frac{1}{2}[(x-2)(x-2)]-3$
		$y = \frac{1}{2}(x^2-4x+4)-3$
		$y = \frac{1}{2}x^2-2x+2-3$
		$y = \frac{1}{2}x^2-2x-1$

4.	You get this:	Fill in this:
		Factored form of the equation: $y = a(x+7)(x-3)$ $a \cdot -21 = 10.5$ $a = -\frac{1}{2}$ $y = -\frac{1}{2}(x+7)(x-3)$ Standard form of the equation: $y = -\frac{1}{2}(x^2+4x-21$ $y = -\frac{1}{2}x^2 - 2x + 10.5$

7 · -3
-21

5.	You get this:	Fill in this:
	$y = -x^2 - 6x + 16$ $y = -1(x^2+6x-16)$ $y = -1(x+8)(x-2)$ Factored Form $y = -x^2 - 6x + 16$ $y = (-x^2-6x-9)+16+9$ $y = -1(x^2+6x+9)+25$ $y = -(x+3)^2+25$ Vertex Form	Either form of the equation other than standard form. Vertex of the parabola $(-3, 25)$ x-intercepts and y-intercept x-int $(-8,0)$ $(2,0)$ y-int $(0,16)$

6.	You get this:	Fill in this:
	$y = 2x^2 + 12x + 13$ Does not factor 26, 12 $y = (2x^2+12x+18)+13-18$ $y = 2(x^2+6x+9)-5$ $y = 2(x+3)^2-5$	Either form of the equation other than standard form. Vertex of the parabola $(-3,-5)$ *x*-intercepts and *y*-intercept calc x-int $\approx(-4.58,0)$ $\approx(-1.44,0)$ y-int $(0,13)$

7.	You get this:	Fill in this:
	$y = -2x^2 + 14x + 60$ $y = -2(x^2-7x-30)$ Factored Form $y = -2(x-10)(x+3)$ $y = (-2x^2+14x-\frac{49}{2})+60+\frac{49}{2}$ $y = -2(x^2-7x+\frac{49}{4})+\frac{169}{2}$ Vertex Form $y = -2(x-\frac{7}{2})^2+\frac{169}{2}$	Either form of the equation other than standard form. Vertex of the parabola $(\frac{7}{2}, \frac{169}{2})$ *x*-intercepts and *y*-intercept x-int $(10,0)$ $(-3,0)$ y-int $(0,60)$