Vertex Form	Axis of Symmetry	Vertex
$y = a(x-h)^2 + k$	$x = h$ $x = -1$	(h,k) $(-1,3)$

$y = \frac{1}{2}(x+1)^2 + 3$

$(x--1)$

Miscellaneous	Graph
$a > 0$ opens up $a < 0$ opens down	Plot the vertex and axis of symmetry. Use the equation to find two more points and their reflections.

$y = \frac{1}{2}(x+1)^2 + 3$

Vertex: $(-1,3)$

$(0,?)$

$y = \frac{1}{2}(0+1)^2 + 3$

$= \frac{1}{2} + 3 = 3\frac{1}{2}$

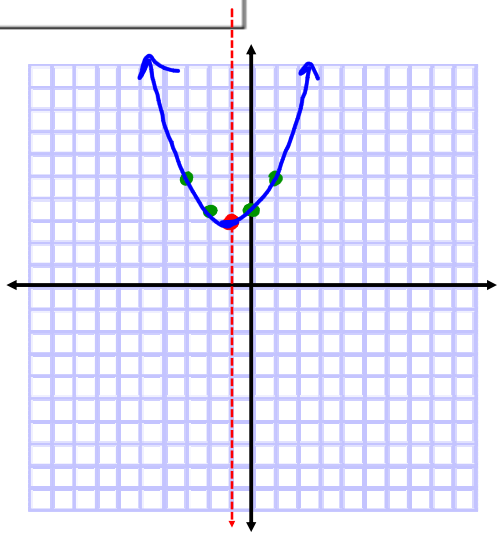
$(0, 3\frac{1}{2})$

$(1,?)$

$y = \frac{1}{2}(1+1)^2 + 3$

$= 5$

$(1,5)$



New homework: p. 249/ # 9 - 11, 22, 24-35, 51, 52 due Monday, Nov 18

28.) $f(x) = (x+5)^2 - 2$

$= (x+5)(x+5) - 2$

$= x^2 + 5x + 5x + 25 - 2$

$f(x) = x^2 + 10x + 23$

32.) $f(x) = 12(x-1)^2 + 4$

$= 12(x-1)(x-1) + 4$

$= 12(x^2 - 2x + 1) + 4$

$= 12x^2 - 24x + 12 + 4$

$= 12x^2 - 24x + 16$