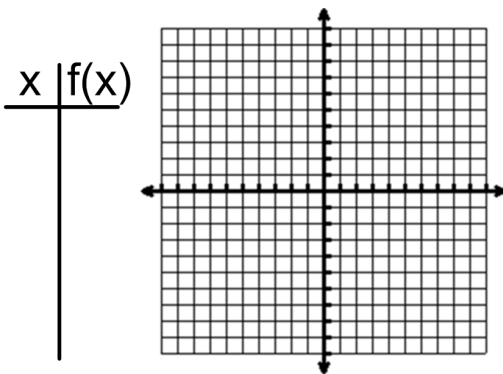


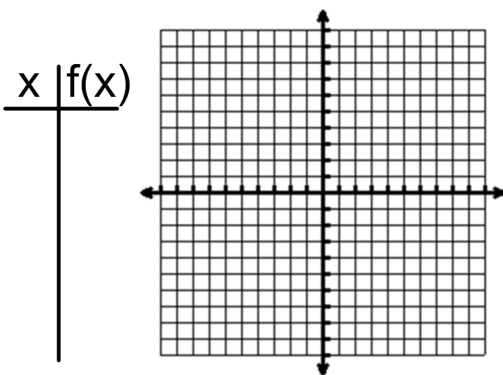
Graph: $f(x) = 2(x - 1)^2$

Vertex: _____	Axis of Symmetry: _____
Interval of Increase: _____	
Interval of Decrease: _____	
Extrema: _____	Max/Min Value: _____
Domain: _____	Range: _____
Y-Intercept: _____	Zeros: _____



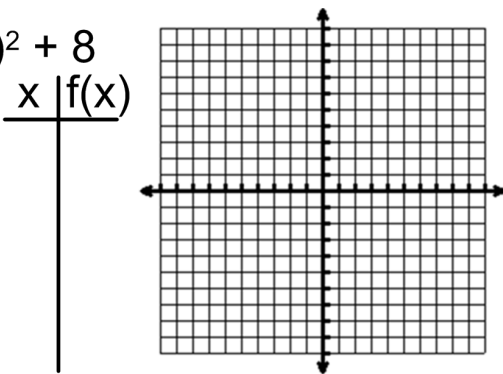
Graph: $f(x) = -x^2 + 4$

Vertex: _____	Axis of Symmetry: _____
Interval of Increase: _____	
Interval of Decrease: _____	
Extrema: _____	Max/Min Value: _____
Domain: _____	Range: _____
Y-Intercept: _____	Zeros: _____



Graph: $f(x) = -1/2(x + 2)^2 + 8$

Vertex: _____	Axis of Symmetry: _____
Interval of Increase: _____	
Interval of Decrease: _____	
Extrema: _____	Max/Min Value: _____
Domain: _____	Range: _____
Y-Intercept: _____	Zeros: _____



Vertex Form of a Quadratic

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

Vertex: (h, k)

$a > 0$: opens up

$a < 0$: opens down

Example: $f(x) = 2(x + 7)^2 - 3$

For the following, identify the vertex of the graph and whether it is opening up or down.

Ex. 1 $f(x) = (x - 4)^2 + 3$

Ex. 3 $g(x) = -x^2 - 5$

Ex. 2 $h(x) = -2(x + 3)^2 + 1$

Ex. 4 $m(x) = 0.4(x - 1)^2$

Graph: $y = -3(x + 1)^2 - 3$

1. Determine the vertex and plot it.
2. Draw the axis of symmetry.
3. Identify two points to evaluate and then reflect those points across the axis of symmetry.
4. Draw a parabola through plotted points.

