GRAPHING QUADRATIC FUNCTIONS NAME_____

PERIOD_____ DATE_____

Vertex form: $y = a(x-h)^2 + k$; vertex: (h,k) $h = -\frac{b}{2a}$ axis of symmetry: $x = h$

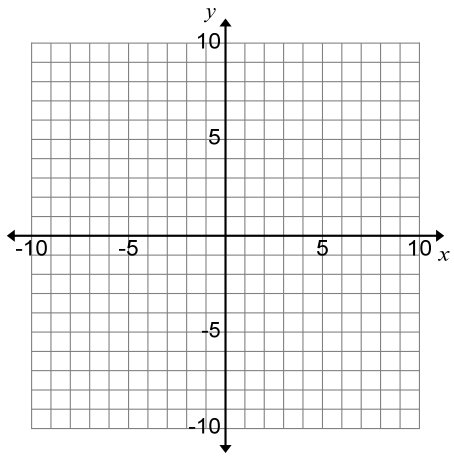
Standard Form: $y = ax^2 + bx + c$ vertex: $\left(-\frac{b}{2a}, f\left(-\frac{b}{2a}\right)\right)$ $y-\text{int} = c$ $a < 0$ opens down, $a > 0$, opens up

Graph each quadratic function.

1. $f(x) = -2(x-3)^2 + 4$
Opens up or down?

Vertex:

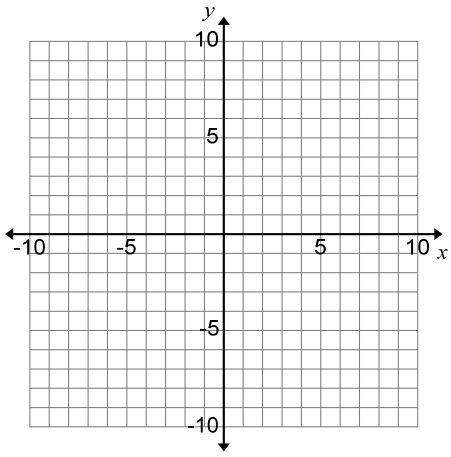
x	*f(x)*	*(x, f(x))*



2. $f(x) = \frac{3}{2}(x-3)^2 + 2$
Opens up or down?

Vertex:

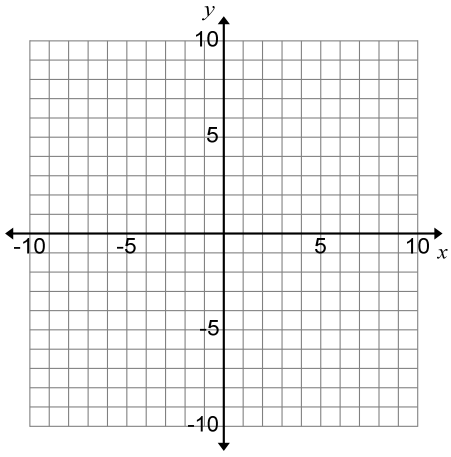
x	*f(x)*	*(x, f(x))*



3. $f(x) = -x^2 + 6x - 8$
Opens up or down?

Vertex:

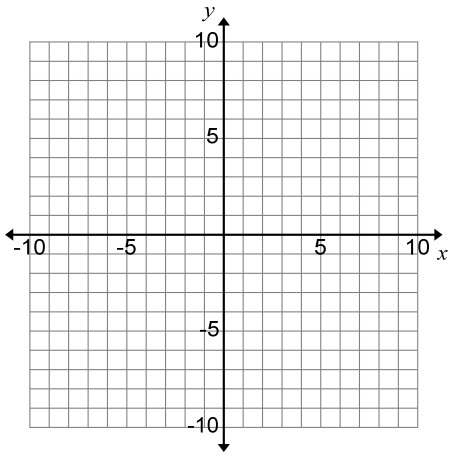
x	*f(x)*	*(x, f(x))*



4. $f(x) = -3x^2 + 6x$
Opens up or down?

Vertex:

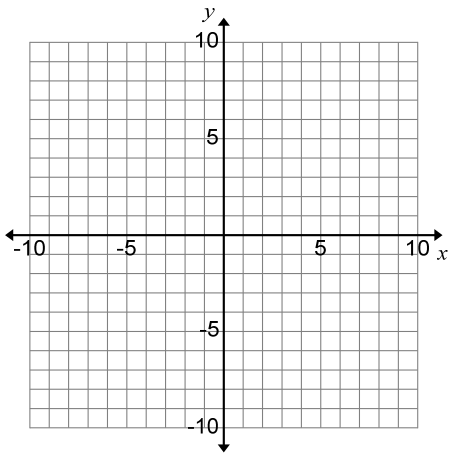
x	*f(x)*	*(x, f(x))*



5. $f(x) = \frac{1}{2} x^2 + 4x + 5$
Opens up or down?

Vertex:

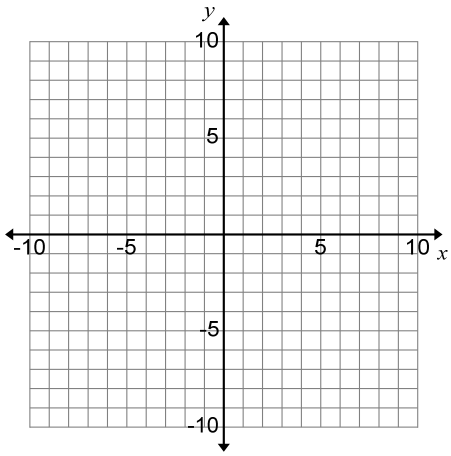
x	*f(x)*	*(x, f(x))*



6. $f(x) = 3(x - 2)^2 - 3$
Opens up or down?

Vertex:

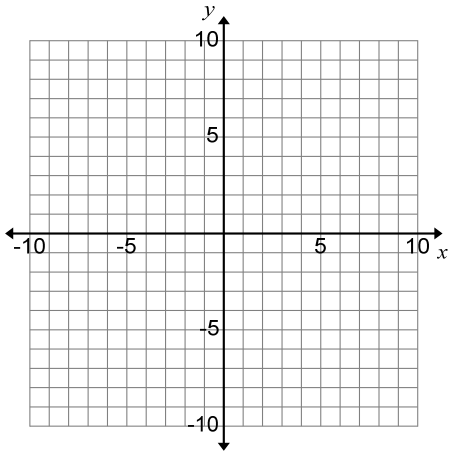
x	*f(x)*	*(x, f(x))*



7. $f(x) = 2(x + 3)^2 + 1$
Opens up or down?

Vertex:

x	*f(x)*	*(x, f(x))*

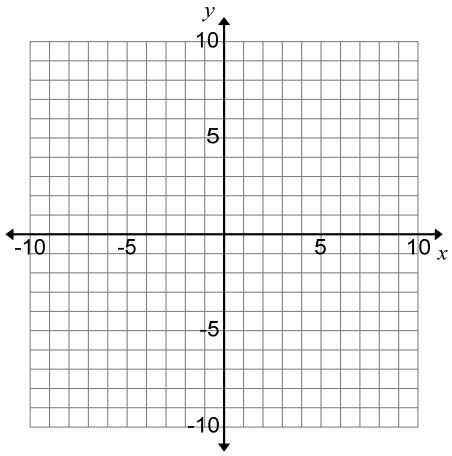


8. $f(x) = -\frac{1}{6}x^2 - x - 3$

Opens up or down?

Vertex:

x	*f(x)*	*(x, f(x))*

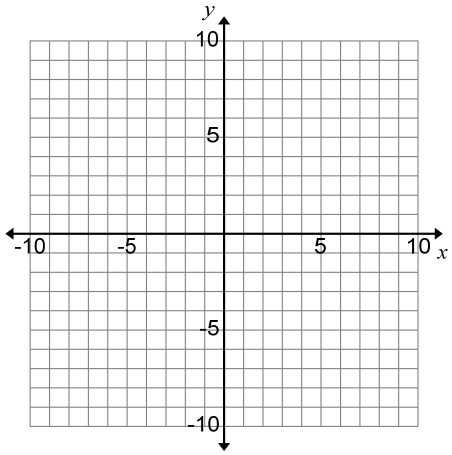


9. $f(x) = -(x + 3)^2 - 4$

Opens up or down?

Vertex:

x	*f(x)*	*(x, f(x))*



10. $f(x) = 2x^2 + 4x + 1$

Opens up or down?

Vertex:

x	*f(x)*	*(x, f(x))*