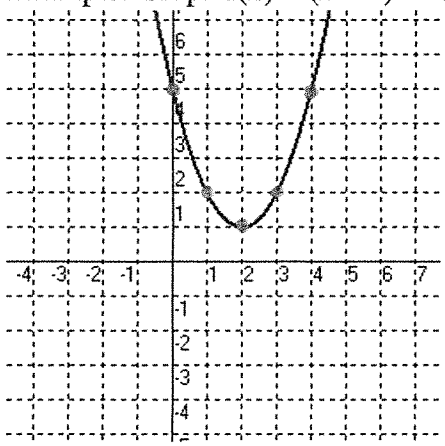
Algebra 1: 11.6 Classwork **Name** _____ **Period** _____

Graphing Quadratics in Vertex Form

When we are graphing a parabola, we want to find the vertex first. Then find two other points on either side of the vertex to graph so the curved shape looks like a parabola. When a quadratic equation is in vertex form, the vertex is much easier to find than if the quadratic equation is in standard form.

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

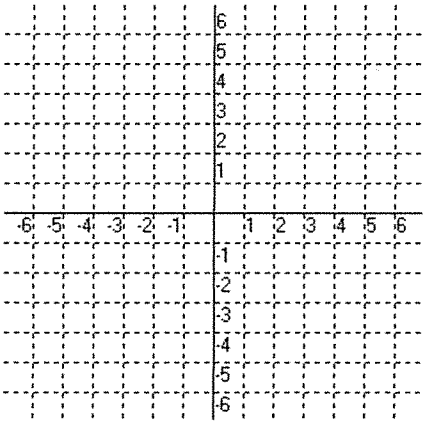


The vertex is (2, 1). Since the x-value for the vertex is "2", then for the other x-values, we'll pick 3 and 4 on the left and 0 and 1 on the right. (The two nearest, nice x-values to x = 2).
Then, plug in 0, 1, 3, 4 for "x" and see what we get for f(x).

x	f(x)
0	5
1	2
2	1
3	2
4	5

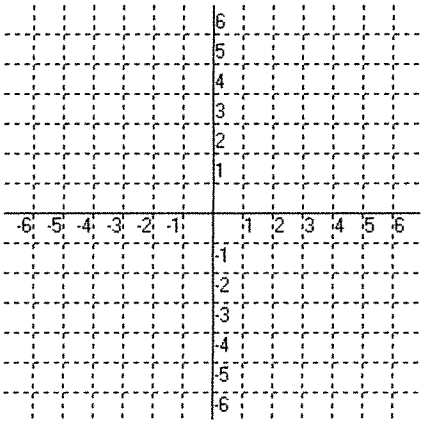
← vertex!

1. Graph $f(x) = (x + 3)^2 - 2$ Vertex = _____



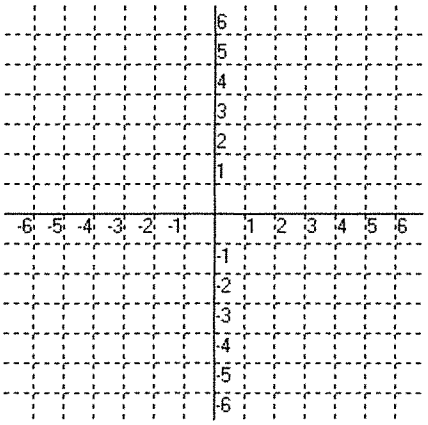
x	f(x)

2. Graph $f(x) = (x + 1)^2 + 4$ Vertex = _____



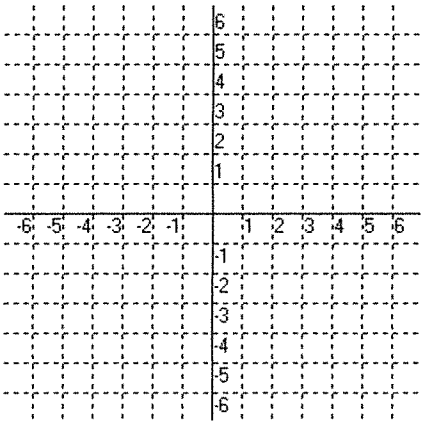
x	f(x)

3. Graph $f(x) = 2(x - 2)^2 - 1$ Vertex = _____



x	f(x)

4. Graph $f(x) = (x - 4)^2 - 5$ Vertex = _____



x	f(x)