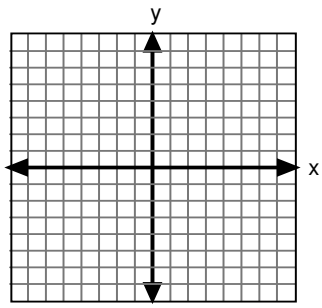
Algebra 1-2 Name: _____

9.3 Vertex Form Worksheet Period: _____

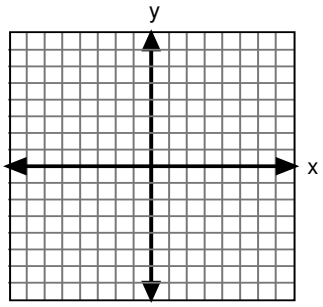
Given that vertex form of a quadratic function is $f(x) = a(x-h)^2 + k$, graph the parabola and state how it was translated from $f(x) = x^2$.

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



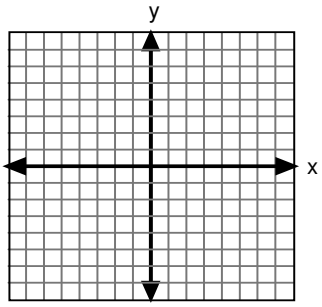
Vertex: _____
Opens: _____
Left/right _____ units.
Up/down _____ units.
Vertically stretched/
shrunk by _____

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



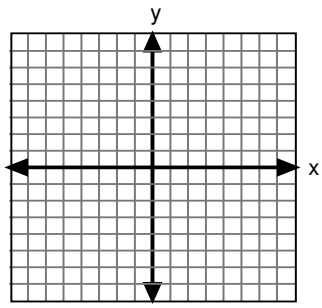
Vertex: _____
Opens: _____
Left/right _____ units.
Up/down _____ units.
Vertically stretched/
shrunk by _____

3. $f(x) = \frac{1}{3}(x-4)^2 + 6$



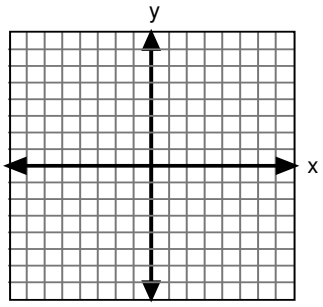
Vertex: _____
Opens: _____
Left/right _____ units.
Up/down _____ units.
Vertically stretched/
shrunk by _____

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



Vertex: _____
Opens: _____
Left/right _____ units.
Up/down _____ units.
Vertically stretched/
shrunk by _____

5. $f(x) = (x+5)^2 - 3$



Vertex: _____
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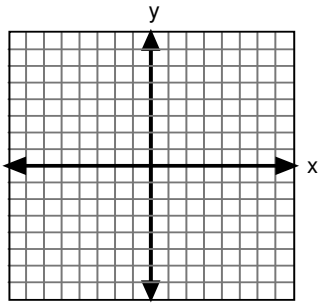
Left/right _____ units.
Up/down _____ units.
Vertically stretched/
shrunk by _____

6. $f(x) = 3(x-8)^2 + 2$



Vertex: _____
Opens: _____
Left/right _____ units.
Up/down _____ units.
Vertically stretched/
shrunk by _____