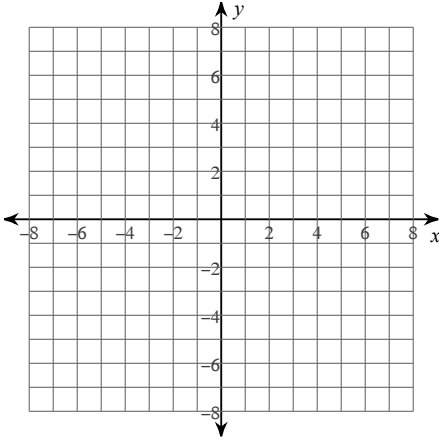


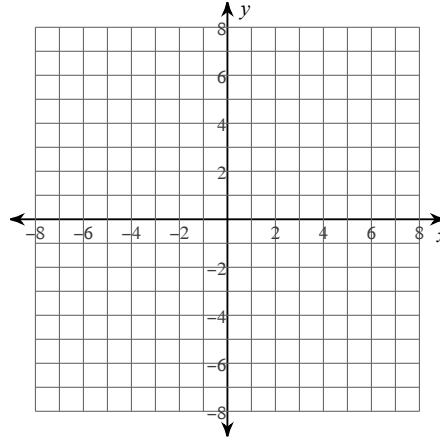
## 6-4 Transformations

Sketch the function using transformations. Describe the transformations and identify the vertex of each.

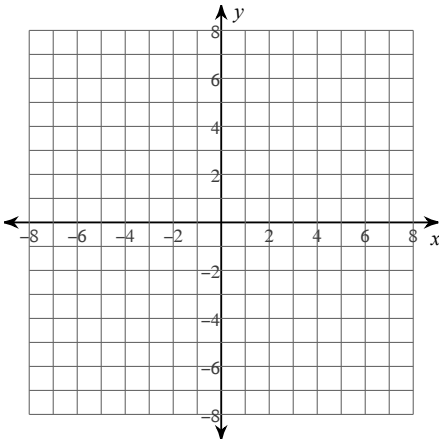
1)  $f(x) = (x - 4)^2 - 4$



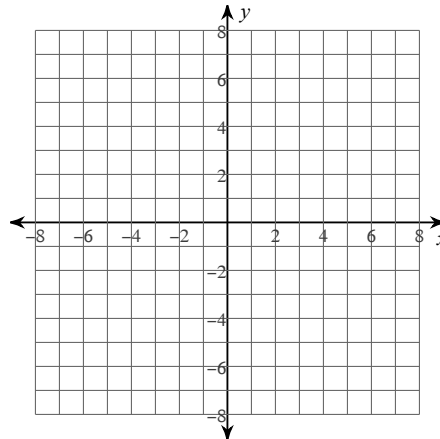
2)  $f(x) = (x - 2)^2 - 5$



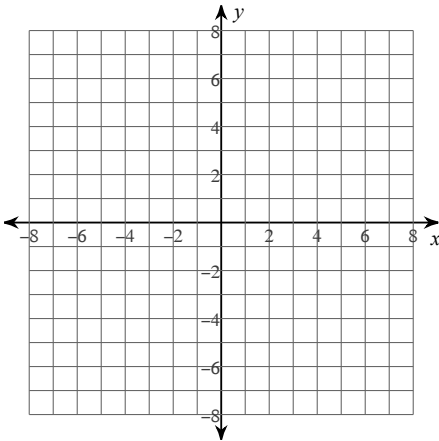
3)  $f(x) = (x + 6)^2 - 2$



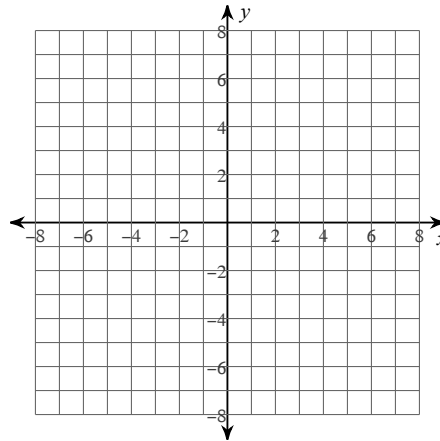
4)  $f(x) = -2(x + 2)^2$



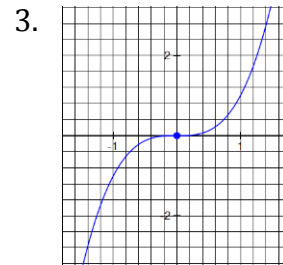
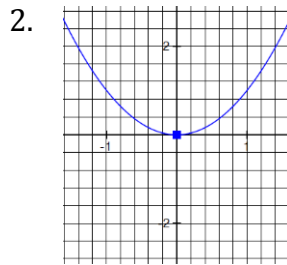
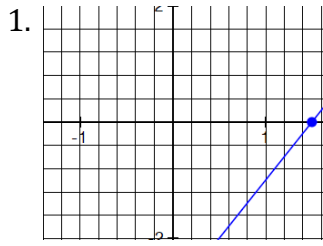
5)  $f(x) = 2(x + 1)^2 - 2$



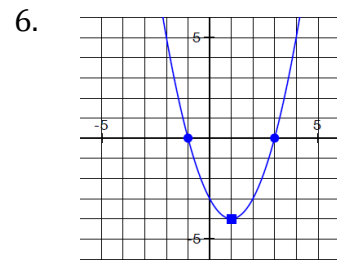
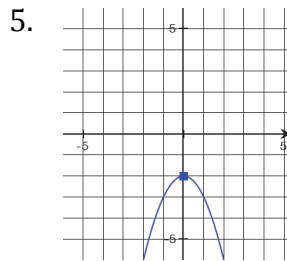
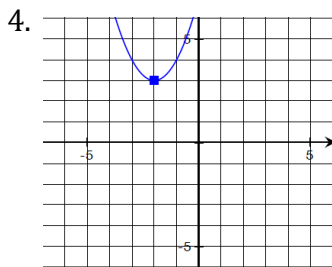
6)  $f(x) = -(x + 4)^2 - 4$



**Label as Linear, Quadratic, or Neither**



**Identify the Vertex and write the function.**



Vertex: \_\_\_\_\_

Vertex: \_\_\_\_\_

Vertex: \_\_\_\_\_

Function: \_\_\_\_\_

Function: \_\_\_\_\_

Function: \_\_\_\_\_

**Identify the Vertex**

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

8.  $g(x) = x^2 + 2$

9.  $h(x) = (x-6)^2$

Vertex: \_\_\_\_\_

Vertex: \_\_\_\_\_

Vertex: \_\_\_\_\_

**Graph the function**

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

11.  $g(x) = -(x+4)^2$

12.  $h(x) = x^2 - 5$

