

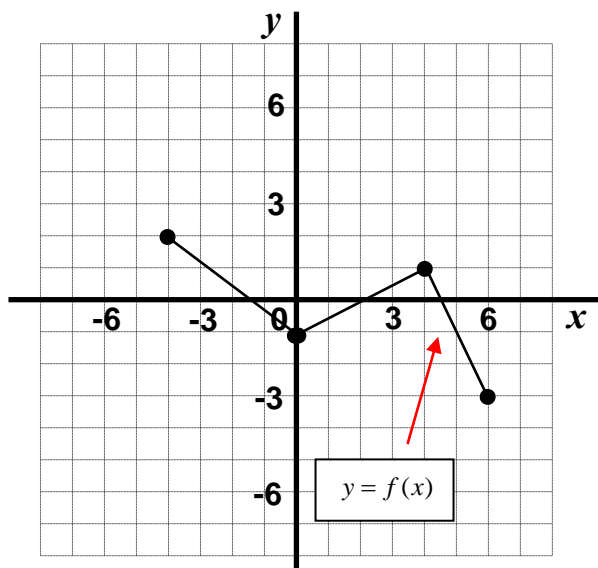
Reflections of Functions

Date:

**Reflection in the x-axis**

Given the graph  $y = f(x)$ , as shown,

a) Graph  $y = -f(x)$  on the same axis

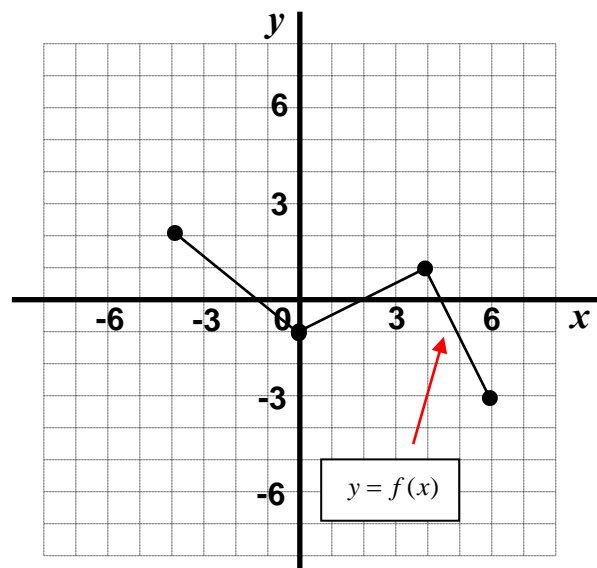


b) Identify any invariant points.

**Reflection in the y-axis**

Given the graph  $y = f(x)$ , as shown,

a) Graph  $y = f(-x)$  on the same axis



b) Identify any invariant points.

**Example**

If  $f(x) = x^2 + 6x$ , find the roots and the vertex and write an equation for  $y = -f(x)$  and  $y = f(-x)$ . Sketch each graph on the given axis and identify any invariant points.

