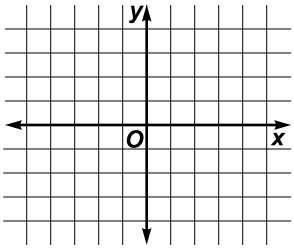
NAME _____ DATE _____ PERIOD _____

Practice

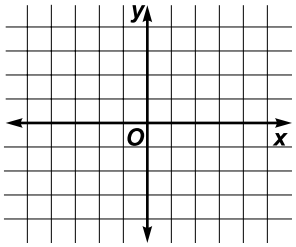
Inverse Functions and Relations

Graph each function and its inverse.

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



2. $f(x) = 3|x| + 2$



Find the inverse of f(x). Then state whether the inverse is also a function.

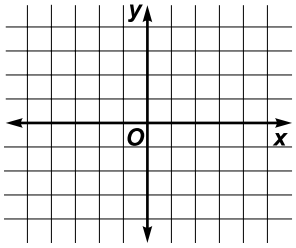
3. $f(x) = -4x^2 + 1$

4. $f(x) = \sqrt[3]{x - 1}$

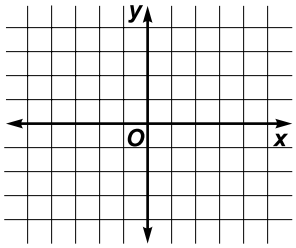
5. $f(x) = \dfrac{4}{(x - 3)^2}$

Graph each equation using the graph of the given parent function.

6. $y = -\sqrt{x + 3} - 1, p(x) = x^2$



7. $y = 2 + \sqrt[5]{x + 2}, p(x) = x^5$



8. ***Fire Fighting*** Airplanes are often used to drop water on forest fires in an effort to stop the spread of the fire. The time t it takes the water to travel from height h to the ground can be derived from the equation $h = \frac{1}{2}gt^2$ where g is the acceleration due to gravity (32 feet/second^2).

a. Write an equation that will give time as a function of height.

b. Suppose a plane drops water from a height of 1024 feet. How many seconds will it take for the water to hit the ground?