

## Lesson 6.4 Worksheet

Name: \_\_\_\_\_

Find an equation for the inverse relation.

1.)  $y = 2x + 1$

2.)  $y = \frac{1}{3}x$

3.)  $y = 6x - 3$

4.)  $y = 10x - 28$

5.)  $y = x^2 + 2$

6.)  $y = -\frac{2}{5}x^3$

Verify that  $f$  and  $g$  are inverse functions.

7.)  $f(x) = x + 4; g(x) = x - 4$

8.)  $f(x) = 7x; g(x) = \frac{1}{7}x$

9.)  $f(x) = x^5; g(x) = \sqrt[5]{x}$

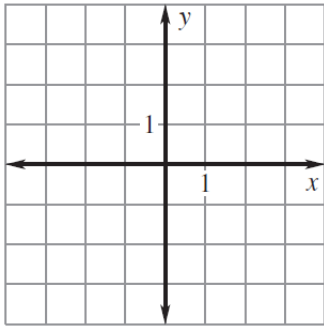
10.)  $f(x) = \frac{1}{4}x^3; g(x) = (4x)^{1/3}$

11.)  $f(x) = 4x + 9; g(x) = \frac{1}{4}x - \frac{9}{4}$

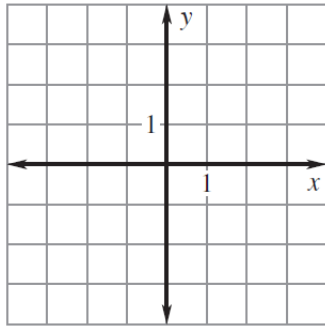
12.)  $f(x) = 5x^2 - 2, x \geq 0; g(x) = \left(\frac{x+2}{5}\right)^{1/2}$

Graph the function  $f$ . Use the horizontal line test to determine whether the inverse of  $f$  is a function. Then graph the inverse of  $f$ .

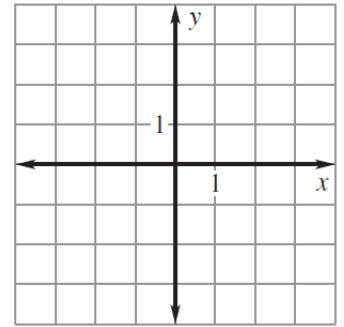
13.  $f(x) = 2x + 1$



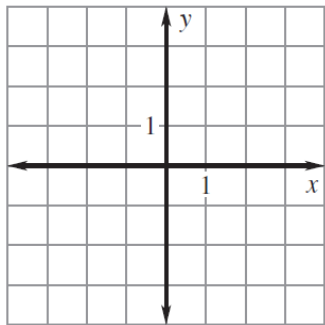
14.  $f(x) = -x - 2$



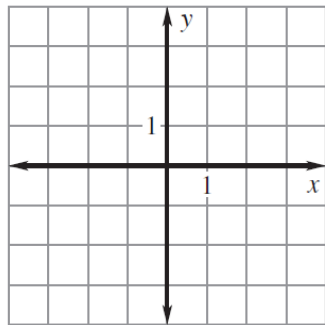
15.  $f(x) = \frac{1}{2}x^2 - 1$



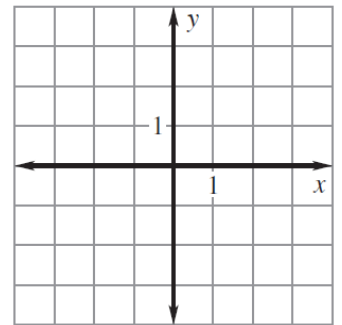
16.  $f(x) = -x^2 + 3, x \geq 0$



17.  $f(x) = \frac{1}{4}x^3$



18.  $f(x) = |x| + 1$



19.) The formula to convert temperatures from degrees Celsius to Fahrenheit is  $F = \frac{9}{5}C + 32$ . Write the inverse function, which converts temperatures from Fahrenheit to Celsius. What is the Celsius temperature that is equal to 94 degrees Fahrenheit?