Inverse Function Practice

1) What does f (x) mean?
2) Write a situation that would have a domain of {1,2,3,4,5} and a range of {20, 40,60,80,100}. Identify the dependent and independent variable.

Find an equation for the inverse relation.

3. $y = x + 1$
4. $y = 5x$
5. $y = 2x - 3$
6. $y = -x + 6$
7. $y = \frac{1}{2}x + 4$
8. $y = \frac{4}{3} - \frac{1}{3}x$

For questions 7-8, find f(x) +g(x)
For question 9, find f(2) and g(32)
For question 10-11, find f(x)-g(x)
For question 12, stare at it and be glad that you do not need to know how to do this for a few more years.

9. $f(x) = x + 4; g(x) = x - 4$
10. $f(x) = x^5; g(x) = \sqrt[5]{x}$
11. $f(x) = 3 - x; g(x) = 3 - x$
12. $f(x) = 7x; g(x) = \frac{1}{7}x$
13. $f(x) = 2x - 4; g(x) = \frac{1}{2}x + 2$
14. $f(x) = x^2 + 5, x \geq 0; g(x) = \sqrt{x - 5}$

Inverse Function Practice

1. the function of x. It represents your output for any given x-value.
2. answers will vary.
3. $y = x + 1$
   $y - 1 = x$
   $x - 1 = y$
   $g(x) = x - 1$
4. $y = 5x$
   $\frac{y}{5} = x$
   $\frac{x}{5} = y$
   $g(x) = \frac{x}{5}$
5. $y = 2x - 3$
   $y + 3 = 2x$
   $\frac{y+3}{2} = x$
   $g(x) = \frac{x+3}{2}$
6. $y = -x + 6$
   $\frac{y-6}{-1} = \frac{-x}{-1}$
   $-y + 6 = x$
   $g(x) = -x + 6$
7. $y = \frac{1}{2}x + 4$
   $y - 4 = \frac{1}{2}x$
   $2y - 8 = x$
   $2x - 8 = y$
   $g(x) = 2x - 8$
8. $y = \frac{4}{3} - \frac{1}{3}x$
   $y - \frac{4}{3} = -\frac{1}{3}x$
   $-3y + 4 = x$
   $-3x + 4 = y$
   $g(x) = -3x + 4$
9. $f(x) + g(x)$
   $x + 4 + x - 4$
   $h(x) = 2x$

10. $f(x) + g(x)$

$7x + \frac{1}{7}x$

$h(x) = 7\frac{1}{7}x$

11. $f(2) = 2^5$

$f(2) = \{32\}$

$g(32) = \sqrt[5]{32}$

$g(32) = \{2\}$

12. $f(x) - g(x)$

$(2x - 4) - (\frac{1}{2}x + 2)$

$h(x) = \frac{3}{2}x - 6$

13. $f(x) - g(x)$

$(3 - x) - (3 - x)$

0