

## ***Intermediate Algebra Skill***

### **Graphing the Function and its Inverse on the same Cartesian Plane**

Graph the function and its inverse on the same set of coordinate axes:

1)  $f(x) = x + 1$

2)  $f(x) = 3x + 1$

3)  $f(x) = 1 - x^2; (x \geq 0)$

4)  $g(x) = (x + 1)^2; (x \geq -1)$

5)  $g(x) = \frac{1}{x + 2}$

6)  $g(x) = \frac{1}{x - 1}$

7)  $h(x) = |x - 1|; (x \geq 1)$

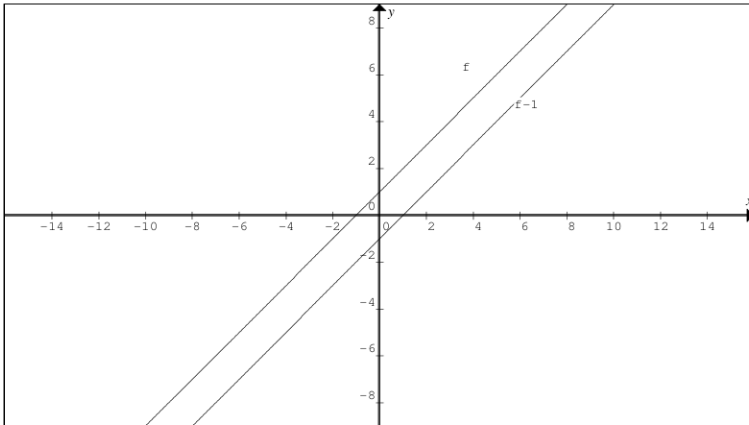
8)  $h(x) = |x + 2|; (x \geq -2)$

9)  $h(x) = \frac{x}{x - 5}$

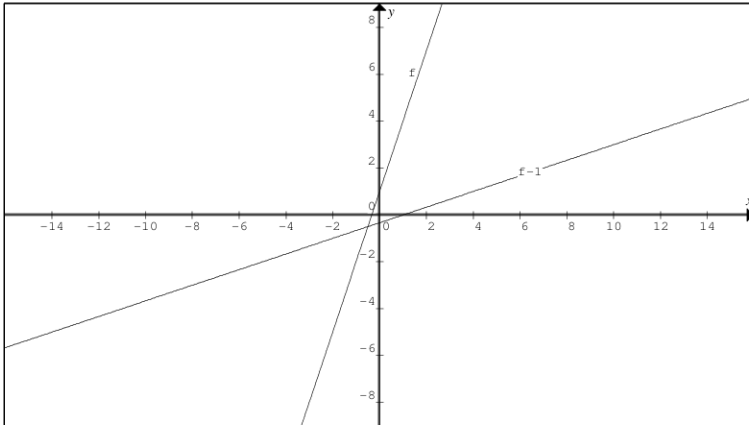
10)  $f(x) = \frac{2x - 1}{x}$

# Answers to Graphing the Function and its Inverse on the same Cartesian Plane

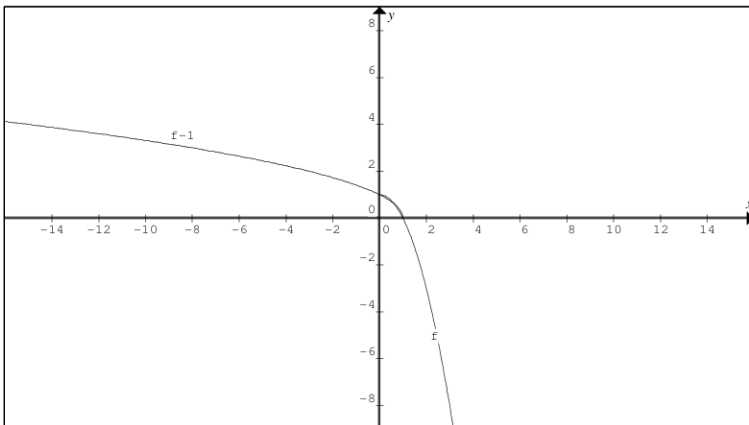
1)  $f^{-1}(x) = x - 1$



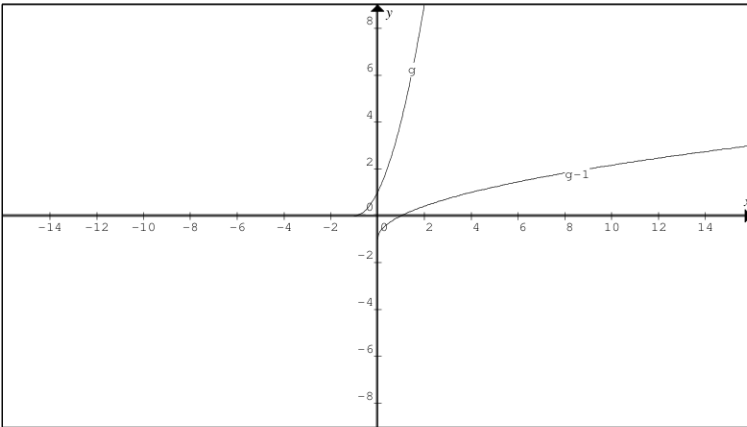
2)  $f^{-1}(x) = \frac{x-1}{3}$



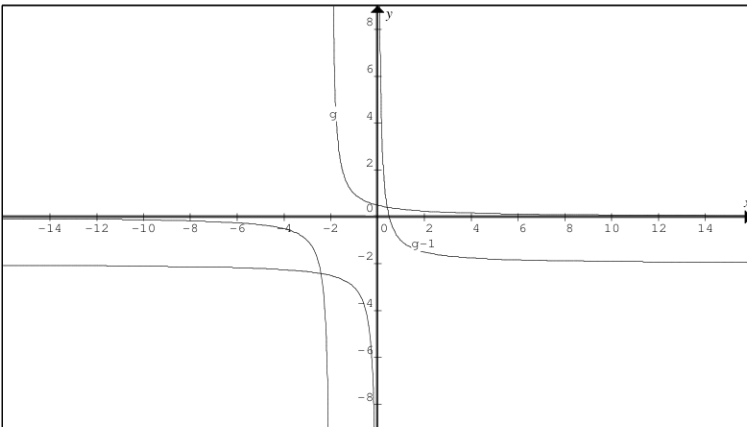
3)  $f^{-1}(x) = \sqrt{1-x}; \quad (x \leq 1)$



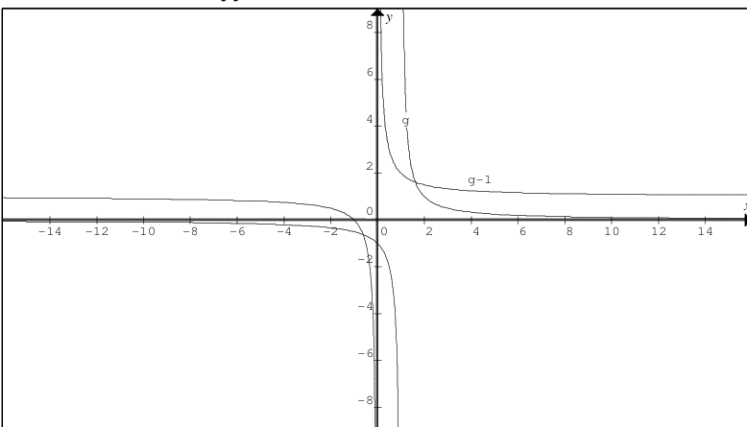
4)  $g^{-1}(x) = \sqrt{x} - 1; (x > 0)$



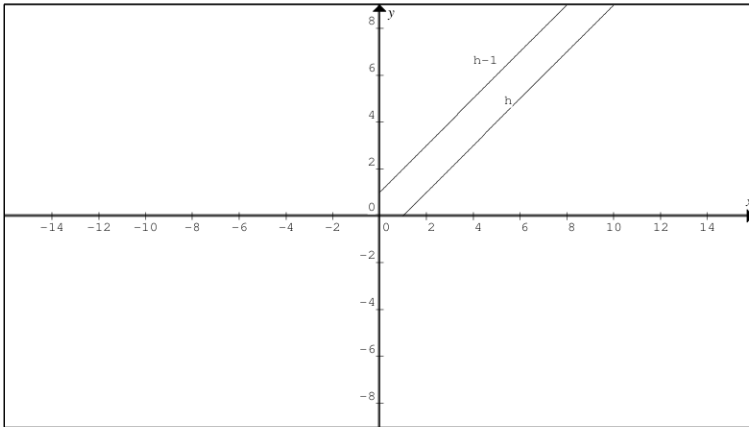
5)  $g^{-1}(x) = \frac{1-2x}{x}$



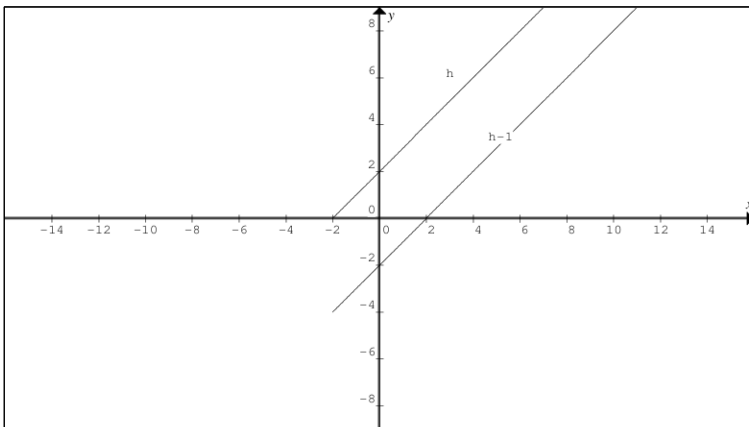
6)  $g^{-1}(x) = \frac{1+x}{x}$



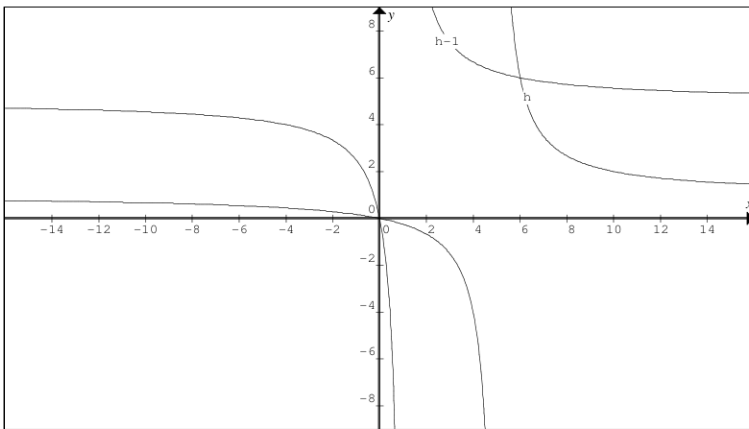
7)  $h^{-1}(x) = x+1; (x \geq 0)$



8)  $h^{-1}(x) = x-2; (x \geq -2)$



9)  $h^{-1}(x) = \frac{5x}{x-1}$



$$10) f^{-1}(x) = \frac{-1}{x-2}$$

