HOMEWORK for VERIFYING INVERSES with COMPOSITION of FUNCTIONS

Prove that the two equations are inverses of each other by using composition of functions.

1) $f(x) = 7x - 10$
$g(x) = \frac{x}{7} + \frac{10}{7}$

$g(f(x))$ =

$f(g(x))$ =

2) $f(x) = \frac{2}{3}x + 12$
$g(x) = \frac{3x}{2} - 18$

$g(f(x))$ =

$f(g(x))$ =

3) $f(x) = \frac{3(x-5)}{4}$
$g(x) = \frac{4x}{3} + 5$

$g(f(x))$ =

$f(g(x))$ =

4) $f(x) = (x + 8)^2$
$g(x) = \pm\sqrt{x} - 8$

$g(f(x))$

$f(g(x))$

5) $f(x) = 3x^2 - 6$

$g(x) = \pm\sqrt{\frac{x+6}{3}}$ $g(f(x)) =$

$f(g(x))=$

6) $f(x) = 5(x+7)^3$

$g(x) = \sqrt[3]{\frac{x}{5}} - 7$ $g(f(x)) =$

$f(g(x)) =$

7) $f(x) = \sqrt[3]{\frac{-x+1}{2}}$

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

$f(g(x)) =$

6-45. The function $f(x)$ is represented in the graph at right. Draw a graph of its inverse function. Be sure to state the domain and range for both $f(x)$ and $f^{-1}(x)$.