SATPREP   Name_____

Assignment: Inverse and Composite function   Date_____

Find the inverse of each function.

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

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

Find the inverse of each function. Then graph the function and its inverse.

3) $h(x) = \sqrt[5]{x} - 1$

4) $f(x) = 2x + 2$

State if the given functions are inverses.

5) $f(x) = \dfrac{10 - 4x}{5}$

$g(x) = \dfrac{3x}{2}$

6) $f(x) = -\dfrac{3}{x} - 2$

$g(x) = \dfrac{3}{-x-2}$

Perform the indicated operation.

7) $g(x) = x - 5$
$f(x) = x^3 + 4x^2$
Find $(g \circ f)(x)$

8) $h(t) = 3t - 1$
$g(t) = t - 2$
Find $(h \circ g)(t)$

9) $f(x) = 4x + 1$
$g(x) = -3x^2 + 4x$
Find $(f \circ g)(0)$

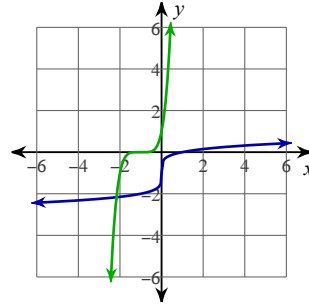10) $g(x) = x + 4$
Find $(g \circ g)(-9)$

Answers to Assignment: Inverse and Composite function

1) $f^{-1}(x) = \sqrt[3]{x-1}$
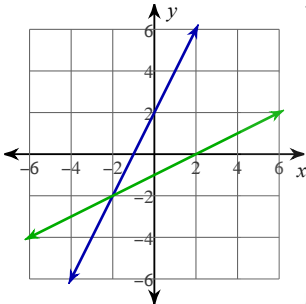
2) $g^{-1}(x) = \dfrac{2}{x-1} - 1$

3)

$h^{-1}(x) = (x+1)^5$

4)

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

5) No

6) Yes

7) $x^3 + 4x^2 - 5$

8) $3t - 7$

9) 1

10) -1