**SATPREP**                                                    Name_____

Assignment: Inverse and Composite function                    Date_____

**Find the inverse of each function.**

1)  $h(x) = \dfrac{-2 - \sqrt[5]{16x}}{2}$

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

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

3)  $h(x) = -\dfrac{2}{x + 1} - 1$

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

**State if the given functions are inverses.**

5)  $f(x) = 5x - 25$

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

6)  $f(n) = \dfrac{6 - \sqrt[3]{4n}}{2}$

$g(n) = \dfrac{\sqrt[5]{16n}}{2}$

**Perform the indicated operation.**

7)  $g(n) = -2n - 3$
$f(n) = -3n^3 - 2n^2$
Find $(g \circ f)(n)$

8)  $h(x) = 2x + 3$
$g(x) = 3x + 3$
Find $(h \circ g)(x)$

9)  $g(x) = 2x - 4$
$h(x) = 2x$
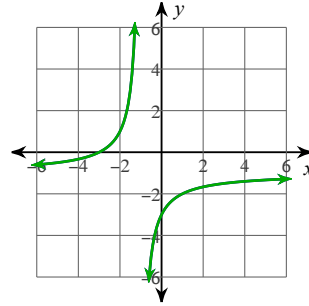Find $(g \circ h)(0)$

10)  $f(n) = 2n$
$g(n) = n - 2$
Find $(f \circ g)(-7)$

# Answers to Assignment: Inverse and Composite function
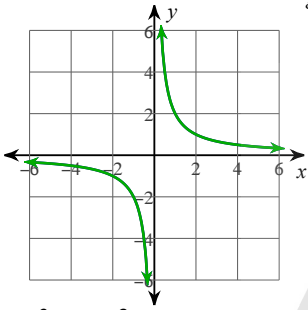
1) $h^{-1}(x) = -2(x + 1)^5$

2) $g^{-1}(x) = \dfrac{6 + 3x}{2}$

3)

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



4)

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



5) Yes

6) No

7) $6n^3 + 4n^2 - 3$

8) $6x + 9$

9) $-4$

10) $-18$