NAME:_____

Corrective Assignment

DATE:_____

For 1-4, use the graphs of the functions f and g.

$f(x)$

$g(x)$
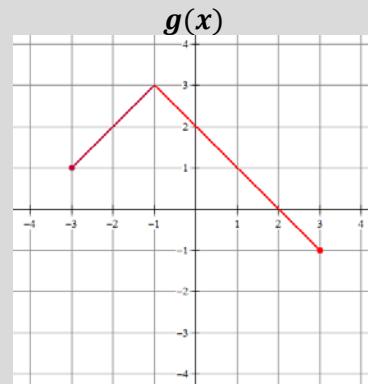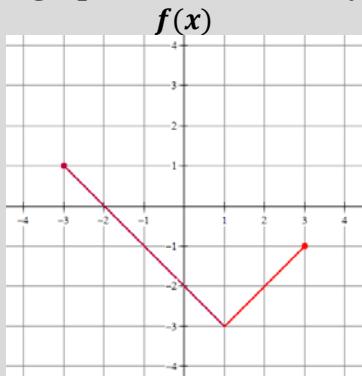
1. Sketch a graph of $(f + g)(x)$
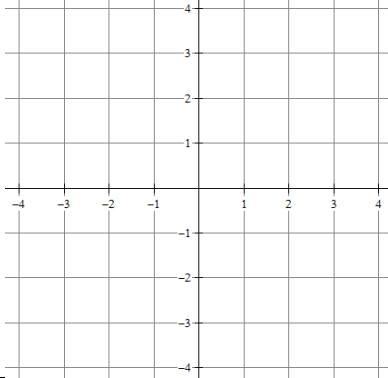
2. Sketch a graph of $(g - f)(x)$
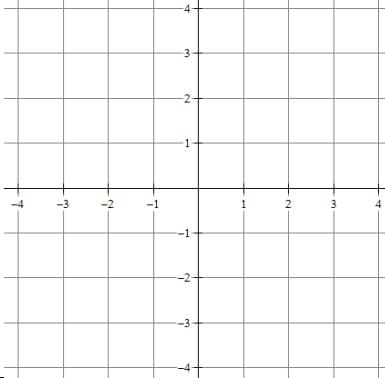
3. Find $g(f(2))$

4. Find $(f \circ g)(2)$

Find the functions of $f + g, f - g, fg$, and $\dfrac{f}{g}$, and find their domains.

5. $f(x) = 3x + 5$ and $g(x) = x^2 - 1$

$f + g =$ **Domain:**

$f - g =$ **Domain:**

$fg =$ **Domain:**

$\dfrac{f}{g} =$ **Domain:**

6. $f(x) = 3x$ and $g(x) = x - 2$

$f + g =$ **Domain:**

$f - g =$ **Domain:**

$fg =$ **Domain:**

$\dfrac{f}{g} =$ **Domain:**

Find the following compositions and find their domains when necessary.	
7. $f(x) = 2x$ and $g(x) = 8 - x^3$	8. $f(x) = \sqrt{x-1}$ and $g(x) = x^2$

7. $f(x) = 2x$ and $g(x) = 8 - x^3$

$(f \circ g)(x) =$ **Domain:**

$(g \circ f)(x) =$ **Domain:**

$f(g(-2)) =$

8. $f(x) = \sqrt{x-1}$ and $g(x) = x^2$

$(f \circ g)(x) =$ **Domain:**

$(g \circ f)(x) =$ **Domain:**

$g(f(3)) =$

ANSWERS TO CORRECTIVE ASSIGNMENT 4.3
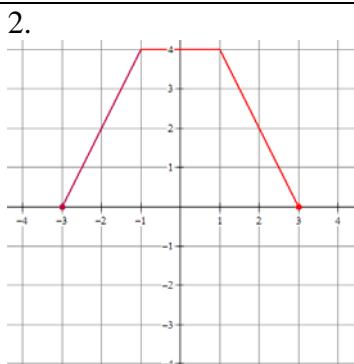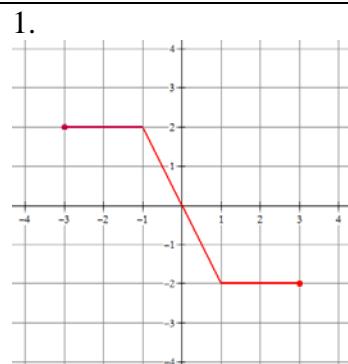
1.	2.	3. $g(-2) = 2$	4. $f(0) = -2$

5.

$f + g = x^2 + 3x + 4$ D: All Reals
$f - g = -x^2 + 3x + 6$ D: All Reals
$fg = 3x^3 + 5x^2 - 3x - 5$ D: All Reals
$\dfrac{f}{g} = \dfrac{3x + 5}{x^2 - 1}$ D: $(-\infty, -1)(-1,1)(1, \infty)$

6.

$f + g = 4x - 2$ D: All Reals
$f - g = 2x + 2$ D: All Reals
$fg = 3x^2 - 6x$ D: All Reals
$\dfrac{f}{g} = \dfrac{3x}{x - 2}$ D: $(-\infty, 2)(2, \infty)$

7.

$f \circ g = 16 - 2x^3$ D: All Reals
$g \circ f = 8 - 8x^3$ D: All Reals
$f(16) = 32$

8.

$f \circ g = \sqrt{x^2 - 1}$ D: $(-\infty, -1][1, \infty)$
$g \circ f = x - 1$ D: $[1, \infty)$
$g(\sqrt{2}) = 2$