2.7A Composition of Functions (Part 1)

AP Precalculus   Name: _____

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

1. Find $f(g(2))$.

2. Find $g(f(-1))$.

3. Find $(g \circ f)\left(\frac{1}{2}\right)$.

Let $f(x) = \dfrac{6}{x}$ and $g(x) = \sqrt{1-x}$.

4. Find $(f \circ g)(-3)$.

5. Find $g(f(-2))$.

6. Find $g(f(6))$.

7. Let $f(x) = 3 - x^2$ and $h(x) = f(g(x))$. Fill in the table.
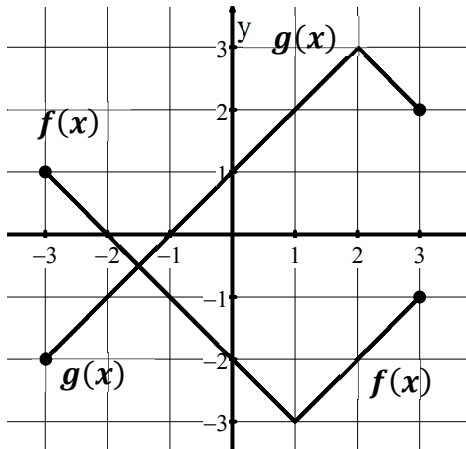
x	$g(x)$	$h(x)$
-1	2	
0	-1	
1	4	

8. Let $g(x) = \dfrac{8}{x}$ and $h(x) = g(f(x))$. Fill in the table.

x	$f(x)$	$h(x)$
2	2	
8	-4	
16	3	

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9. Fill in the following table, given that $h(x) = f(g(x))$.

x	$f(x)$	$g(x)$	$h(x)$
-7	2	6	
-3	6	-7	
-1	-3	-3	
0	5	2	
2	-7	5	
5	-1	0	
6	0	-1	

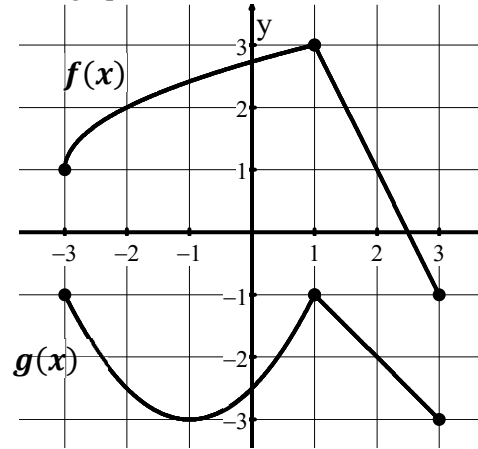10. Use the graph to find each value.

a. Find $f(g(2))$.

b. Find $g \circ f(3)$.

c. Find $g(f(2))$.

11. Use the graph to find each value.

a. Find $f(g(2))$.

b. Find $f \circ g(-2)$.

c. Find $g(f(1))$.

Answers to 2.7A CA #1

1. 9	2. $-\dfrac{2}{9}$	3. $3 - \sqrt{3}$	4. 3	5. 2	6. 0

| 7a. -1
 7b. 2
 7c. -13 | 8a. 4
 8b. -2
 8c. $\dfrac{8}{3}$ | 9. $0, 2, 6, -7, -1, 5, -3$ | 10a. -1
 10b. 0
 10c. -1 | 11a. 2
 11b. 1
 11c. -3 |