

## 2.7B Composition of Functions (Part 2)

AP Precalculus

Name: \_\_\_\_\_

**CA #1**

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

1. Find  $f \circ g$

2. State the domain of  $f \circ g$

3. Find  $g \circ f$

4. State the domain of  $g \circ f$

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

5. Find  $f \circ g$

6. State the domain of  $f \circ g$

7. Find  $g \circ f$

8. State the domain of  $g \circ f$

Express  $h$  as a composition of two simpler functions  $f$  and  $g$  where  $h(x) = f(g(x))$ .

9.  $h(x) = e^{3x-1}$

$f(x) =$

$g(x) =$

10.  $h(x) = \frac{1}{x^2-2x}$

$f(x) =$

$g(x) =$

Answers to 2.7B CA #1

1. $f \circ g = 16 - 2x^3$	2. All real numbers	3. $g \circ f = 8 - 8x^3$	4. All real numbers	5. $f \circ g = \sqrt{x^2 - 1}$
6. $(-\infty, -1][1, \infty)$	7. $g \circ f = x - 1$	8. $[1, \infty)$	9. $f(x) = e^x$ $g(x) = 3x - 1$	10. $f(x) = \frac{1}{x}$ $g(x) = x^2 - 2x$