

5.5b Operations with Functions DAY ONE CYU

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Composition of Functions	1 - 3	4	
Evaluating Functions	1 - 3	4	
Domain of functions	1 - 3		5 - 10

Perform the indicated composition of functions. Restrict the domain. Finally evaluate for the value given.

1. $h(x) = x^2 - 2$
 $g(x) = 4x + 1$
 Find $(h \circ g)(x)$

$(h \circ g)(3)$

$16x^2 + 8x - 1$
 $D: (-\infty, \infty)$ $(3, 167)$

2. $g(n) = 2n + 3$
 $h(n) = n - 1$
 Find $(g \circ h)(n)$

$(g \circ h)(-2)$

$2n + 1$
 $D: (-\infty, \infty)$
 $(-2, -3)$

3. $f(n) = 2n$
 $g(n) = -n - 4$
 Find $(f \circ g)(n)$

$(f \circ g)(0)$

$-2n - 8$
 $D: (-\infty, \infty)$
 $(0, -8)$

4. Let $f(x) = 2x^2 - 3x$, $g(x) = 3x + 2$, and $h(x) = 2x - 9$. Find $g(h(x))$ and $f(h(2))$.

$$6x - 25$$
$$D: (-\infty, \infty)$$
$$(2, 65)$$

II. Restrict the following domains, in interval notation. Show all work to earn full credit.

5. $f(x) = x^2 - 2x$

$$(-\infty, \infty)$$

6. $g(x) = \frac{2x+4}{x-8}$

$$(-\infty, 8) \cup (8, \infty)$$

7. $h(x) = \sqrt{6x - 18}$

$$(-\infty, 3) \cup (3, \infty)$$

8. $k(x) = \frac{1}{\sqrt{3x+9}}$

$$(-3, \infty)$$

9. $m(x) = \sqrt[3]{3x+1}$

$$(-\infty, \infty)$$

10. $j(x) = (-3+x)^{\frac{1}{2}}$

$$[3, \infty)$$

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself

