Name Key Date _____ Pd ____

5.5 Operations with Functions DAY TWO 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
Adding Functions	5, 7		
Subtracting Functions	1, 6		
Evaluating Functions		1 - 8	
Domain of functions			1 - 8
Multiplying Functions	3, 4		
Dividing Functions	2, 8		

Perform the indicated operation. Then restrict the domain for each problem below in interval notation. Finally evaluate for the given x value.

1. $g(x) = -x^2 - 1 - 2x$
   $f(x) = x + 5$
   $(g - f)(x)$ and when x = 7.

   $x^2 + 3x + 6$ $(7, 76)$
   D: $(-\infty, \infty)$

2. $f(x) = 3x - 1$
   $g(x) = x^2 - x$
   $\left(\frac{f}{g}\right)(x)$ and when x = - 3.

   $\frac{3x-1}{x^2-x}$ or $\frac{3x-1}{x(x-1)}$ $\left(-3, -\frac{5}{6}\right)$
   D: $(-\infty, 0) \cup (0, 1) \cup (1, \infty)$

3. $f(x) = 2x^3 - 5x^2$
   $g(x) = 2x - 1$
   $(f \cdot g)(x)$ and when x = 0.

   $4x^4 - 12x^3 + 5x^2$
   D: $(-\infty, \infty)$
   $(0, 0)$

4. $g(x) = 2x + 5$
$f(x) = -x^2 + 5$
Find (g + f)(x) and when x = - 2.

$-x^2 + 2x + 10$ or $-(x^2 - 2x - 10)$

D: $(-\infty, \infty)$ $(-2, 2)$

5. $f(x) = 4x - 3$
$g(x) = x^3 + 2$
Find (f – g)(x) and when x = 4.

$-x^3 + 2x - 3$ $(4, -59)$

D: $(-\infty, \infty)$

6. $h(x) = 3x + 3$
$g(x) = -4x + 1$
Find (h + g)(x) and (h + g)(10).

$-x + 4$

D: $(-\infty, \infty)$

$(10, -6)$

7. $g(n) = n^2 + 4 + 2n$
$h(n) = -3n + 2$
$(g \cdot h)(x)$ and x = 1

$-3n^3 + 2n^2 - 14n + 8$

D: $(-\infty, \infty)$

$(1, -7)$

8. $g(x) = 3x + 2$
$f(x) = 2x - 4$
Find $\left(\frac{g}{f}\right)(x)$ and when x = 3.

$\frac{3x+2}{2x-4}$ or $\frac{3x+2}{2(x-2)}$

D: $(-\infty, 2) \cup (2, \infty)$

$(3, \frac{11}{2})$

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