**Unit 3 #2 FUNCTION OPERATIONS**

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| **Notation for Function Operations** |
| **Operation** | **Notation** |
| Addition |  |
| Subtraction |  |
| Multiplication |  |
| Division |  |

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| **SIMPLIFYING FUNCTION OPERATIONS** |
| Example 1: Adding FunctionsGiven f(x) = 4x2 + 3x – 1 and g(x) = 6x + 2, find (f+g)(x). | Example 2: Subtracting FunctionsGiven f(x) = 5x – 6 and g(x) = x2 – 5x + 6, Find (f–g)(x). |
| Example 3: Multiplying Functions Given f(x) = 6x2 – x – 12 and g(x) = 2x – 3, find (fg)(x). | Example 4: Dividing FunctionsGiven f(x) = x + 2 and g(x) = x2 – 4, find $\left(\frac{g}{f}\right)(x)$ . |
| **EVALUATING FUNCTION OPERATIONS** |
| Example 5: Adding FunctionsGiven f(x) = 4x2 + 3x – 1 and g(x) = 6x + 2, find (f+g)(3). | Example 6: Subtracting FunctionsGiven f(x) = 5x – 6 and g(x) = x2 – 5x + 6, Find (f–g)(16). |
| Example 7: Multiplying Functions Given f(x) = 6x2 – x – 12 and g(x) = 2x – 3, find (fg)(-2). | Example 8: Dividing FunctionsGiven f(x) = x + 2 and g(x) = x2 – 4, find $\left(\frac{g}{f}\right)(3)$ . |

**I HAVE…WHO HAS? CARD GAME**

* Everyone in your team needs 1 card. If you have extra cards, some people may need to hold more than 1 card.
* Wrap around the team by asking and answering the questions on your card.
* Every card will be used.
* The same person should end up starting and finishing the game.
* Team Leader starts.
* 4 minutes to solve your problem. Then we begin the game!

LIST OF FUNCTIONS

f(x) = 2x+1

g(x) = -4x-5

h(x) = x – 7

j(x) = 3x

k(x) = 3x + 9

m(x) = x2 – 4

n(x) = x2 + 10

p(x) = 7x2 - 20

My problem: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ My answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_