6.1 Operations with Functions – Notes

Objectives: Adding, subtracting, multiplying and dividing functions
Finding compositions of functions
Understanding domain restrictions

****Domain **(values of x)** restrictions occur when: there is a variable in the _____of a fraction or when there is a variable under a _____.

Example 1: $f(x) = x^2 + x - 6$ **and** $g(x) = x^2 - 4$

$(f + g)(x)$ $(f - g)(x)$

$(f \cdot g)(x)$ $\left(\frac{f}{g}\right)(x)$

Example 2: $f(x) = 3x^2$ **and** $g(x) = \frac{5}{x}$

$(f + g)(x)$ $(f - g)(x)$

$(f \cdot g)(x)$ $\left(\frac{f}{g}\right)(x)$

6.1 Day 1 Skills Practice

Exercises

1. $f(x) = x - 1; g(x) = 5x - 2$

$(f + g)(x) =$

$(f - g)(x) =$

$(f \cdot g)(x) =$

$\left(\frac{f}{g}\right)(x) =$

2. $f(x) = x^2 + x - 6; g(x) = x - 2$

$(f + g)(x) =$

$(f - g)(x) =$

$(f \cdot g)(x) =$

$\left(\frac{f}{g}\right)(x) =$

3. $f(x) = x^2 - 1; g(x) = \frac{1}{x+1}$

$(f + g)(x) =$

$(f - g)(x) =$

$(f \cdot g)(x) =$

$\left(\frac{f}{g}\right)(x) =$