10. Function Operations

Basic Function Operations

$f(x)$ and $g(x)$ **are functions that exist and are defined over a domain.**

- ***Sum*** $(f+g)(x) = f(x)+g(x)$
- ***Difference*** $(f-g)(x) = f(x)-g(x)$
- ***Product*** $(f \cdot g)(x) = f(x) \cdot g(x)$
- ***Quotient*** $\left(\frac{f}{g}\right)(x) = \frac{f(x)}{g(x)},\ g(x) \neq 0$

Restrictions or NPV's

Linear **Quadratic** **Radical** (linear) **Rational** (monomial, binomial)

Absolute Value (first degree) **Cubic** **Exponential** **Logarithmic**

Chapter 10 Function Operations Outline

10.1	Sums and Differences of Functions
10.2	Products and Quotients of Functions
10.3	Composite Functions
	Worksheet
	10. Review
	10 Function Operations Exam

Function Operation Notes

Interactive Notes for Students

10.1 Sums and Differences of Functions

Class Notes

The McGraw-Hill Ryerson PreCalculus 12 Text is used as the Main Resource.
Assignments in the Powerpoint Lesson Plans refer to pages and questions in the PreCalculus 12 text.

10.1 Sums and Differences of Functions

10.2 Products and Quotients of Functions

Class Notes

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10.2 Products and Quotients

10.3 Composite Functions

Class Notes

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10.3 Composite Functions

10.4 Function Operations Review

M30-1 Chapter 10 Review (Function Operations) DK

Pedagogical Shifts: TRANSFORM, Moving from Traditional to Student-Centered
Shifting from Summative to Formative Assessment
Shifting from Competitive to Collaborative Learning

Function Operations Row Game

One partner completes the exercises in column A while the other partner completes those in column B.
When you compare answers, they should match. If not, work together to discover and correct your error.

Student A _____	Student B _____
Use the following functions to complete problems 1 and 2. $f(x)=2x+3$ and $g(x)=4-x$	Use the following functions to complete problems 1 and 2. $f(x)=x-6$ and $g(x)=4x+1$
1. $(f+g)(8)$ _____	1. $(f+g)(4)$ _____
2. $(f-g)(2)$ _____	2. $(f-g)(-4)$ _____

Function Operations Row Game Review

Students work with a partner to complete the row game activity. One student completes the exercises in column A while the partner completes the exercises in column B. In one version of the game, each column has a different question, however, the answers match. Students work on their question independently and compare answers. If the answers do not match, students must work together to discover and correct the error.The Mathematical Processes that are supported include **Communication, Reasoning and Problem Solving**.