CAMOSUN COLLEGE

School of Access
Academic and Career Foundations Department

MATH 057 Intermediate Mathematics 2

VIDEO LINKS

MATH 057 course content	Video Links
Unit R - Arithmetic Review (no calculator)	
R1	Place value	Comparing place value Place Value (1) Place Value (2)Place Value (3)
R2	Comparing numbers	Less than and greater than <, > Comparing decimals Comparing decimals, smallest to greatest
R3	Rounding numbers	Rounding whole numbers (1) Rounding whole numbers (2) Rounding whole numbers (3)
R4	Adding and subtracting whole numbers and decimals	Why carrying works in addition Add 3-digit numbers with carrying Addition with carrying practice Borrowing/regrouping to subtract (1) Borrowing to subtract (2) Borrowing to subtract (3) Borrowing to subtract (4) Borrowing to subtract (5) Decimals on a number line Rounding decimals (1) Rounding decimals (2) Comparing decimals Adding decimals
R5	Multiplying whole numbers and decimals	Multiplication explained (1) Multiplication explained (2) Times tables chart patterns Multiplication facts x 1, 2, 3, 4, 5, 6, 7, 8, 9 Multiplication facts x 10, 11, 12 How to multiply Ways to show multiplication Multiplying with multiples of 10 Multiplying 2-digit numbers (1) Multiplying 2-digit numbers (2) Multiplying larger numbers Multiplication practice questions Multiplication estimation Multiplying decimals: how to Multiplying decimals example Multiplying decimals by power of 10 Multiply decimals example question

R6	Powers – repeated multiplication (Exponential notation)	Exponents explained Difference between powers (exponents) and multiplication How to use exponent key on calculator
R7	Dividing whole numbers and decimals	Division explained (1) Division explained (2) Long division Dividing numbers: intro to remainders2-digit divisors Dividing to get a decimal answer Dividing to get a decimal answer practice Dividing multi digit decimal Dividing a decimal with hundredths example
R8	Order of operations	Order of operations explained Examples of order of operations questions Order of operations (more practice)
R9	Operations with fractions	Fractions explained More on understanding fractions Numerator & denominator explained Converting mixed numbers into improper fractions (1) Converting mixed numbers to improper fractions (2) Converting from decimal to fraction notation Converting improper fractions into mixed numbers Comparing improper fractions and mixed numbers Improper fractions and mixed numbers on number line
R10	Equivalent fractions	Equivalent fractions (1) Equivalent fractions (2) Equivalent fractions (3) Fractions in lowest terms Practice simplifying fractionsComparing fractions (1) Comparing fractions (2)
R11	Adding and subtracting fractions	Adding fractions with like denominators Subtracting fractions with like denominators Finding common denominators Add fractions different denominators Adding fractions with unlike denominators Subtracting fractions with unlike denominators Adding mixed numbers Adding mixed numbers with unlike denominators (1) Adding mixed numbers with unlike denominators (2) Subtracting mixed numbers (1) Subtracting mixed numbers (2) Subtracting mixed numbers with unlike denominators Adding fractions word problems Subtracting mixed numbers word problems (1) Subtracting mixed numbers word problems (2)
R12	Multiplying fractions	Multiplying fractions (1) Multiplying fractions (2) How to use calculator for fraction questions Multiplying fractions & whole numbers Multiplying mixed numbers Multiplying fractions & mixed numbers Multiplying fractions word problem (1) Multiplying fractions word problems(2) Multiplying fractions word problem (3)

R13	Dividing fractions	Division that results in a fractionDividing fractions Fraction Division: multiply by reciprocal Dividing mixed numbers Dividing Fractions and writing with division symbolDividing fractions word problem (1) Dividing fractions word problems (2) Dividing fractions word problems (3) Dividing fractions word problem (4) Dividing fractions word problems (5)
R14	Converting fractions and decimals	Converting from fractions to decimals Converting decimals to fractions (1) Converting decimals to fractions (2) Converting decimals to fractions (3) Converting decimals to fractions (4) Converting decimals to fractions (5) Converting decimals to fractions (6) Converting fractions to decimals (1) Converting fraction to a decimal (2) Converting a fraction to a repeating decimal
R15	Estimation	Estimating a multiplication questionEstimating a decimal Rounding decimals on number line Practice rounding decimals on the number line
	Practice Test (Unit R)	
	Unit R final test (no calculator)	
Start of math 053 course material
	Math 053 Course	**Video Links**
	Unit 1 Introduction to Real Numbers and Algebraic Expressions	
7.1	Introduction to algebra	Why we don't use a multiplication sign Evaluating an expression with one variable Evaluating an expression practice question Evaluating an algebra expression with two variables (1) Evaluating an algebra expression with two variables (2)
7.2	The real numbers	Plotting decimals on number line Plotting fractions on number line Ordering negative numbers from least to greatest Greater than or less than Absolute value More on Absolute Value Classifying numbers Intro to rational and irrational numbers More on rational and irrational numbers
7.3	Addition of real numbers	Adding Integers with different signs Adding integers practice 1 Additive Inverse
7.4	Subtraction of real numbers	Subtracting Integers Subtracting Integer Word Problem with Temperature Subtracting Integer word problem with money
7.5	Multiplication of real numbers	Multiplying Integers intro Why two negatives in a multiplication results in a positive Practice multiplying positive and negative numbers 1 Practice multiplying positive and negative numbers 2
7.6	Division of real numbers	Dividing positive and negative numbers Dividing by Zero explained Writing the Reciprocal of a fraction Inverse property of multiplication

7.7	Properties of real numbers	Commutative Law of addition Commutative Law of multiplication Associative Property of Addition Example More properties of numbers (Reciprocal and additive inverse) Distributive law example 1 Distributive law example 2 Distributive law example 3 Intro to factoring (opposite of distributing) Collecting like terms intro Collecting like terms 1 Collecting like terms 2	
7.8	Simplifying expressions; order of operations	Intro to order of operations Order of operations example 1 Order of operations example 2 Order of operations example 3 Order of operations example 4	
	Summary and review unit 1		
	Unit 1 test Real Numbers and Algebraic Expressions		
	Unit 2 ☐ Solving Equations and Inequalities		
8.1	Solving Equations: the addition principle	Intro to why we can do the same to both sides of the equation to help solve the equation Solving a simple equation example that uses the addition principle Addition principle example 1 Addition principle example 2 Addition principle example 3 How to solve an equation intro	
8.2	Solving Equations: the multiplication principle	Using the multiplication principle to solve a simple equation Single step algebra questions with fractions Using cross multiply to solve algebra questions containing fractions Using cross multiply to solve algebra questions	
8.3	Using the Principles together	Using both addition and multiplication principles together in one question example 1 Example questions for solving for the variable Using addition and multiplication principles in one question example 2 Using addition and multiplication principles on one question example 3 Example questions with decimals, like terms (multi-step) Example multi-step question with a division Solving equations with variables on both sides of equal sign example 1 Solving equation with variables on both sides of equal sign example 2 Solving equation with variables on both sides of equal sign example 3 Solving equations that use the distributive property to clear brackets example 1 Distributive property when question includes fractions Solving equations that use the distributive property that include clearing fractions Example Equations that have either no solution or many solutions Solving equations with more than one solution	
8.4	Formulas	Rearrange formula to isolate a specific variable example 1 Rearrange formula to isolate a specific variable example 2 Rearrange formula to isolate a specific variable example 3	

		Rearrange formula to isolate a specific variable example 4 Rearrange formula to isolate a specific variable example 5
8.5	Applications of Percent	Translating and solving a percent problem (using the equation method) example 1 Translating and solving a percent problem (using the equation method) example 2 Translating and solving a percent problem (using the equation method) example 3 Example of percent word problem (50% off sale) Example of percent problem (14% commission) Example of percent problem that use proportion method
8.6	Applications of Problem Solving	Word problem Using Equation method to solve percent question for the original price/value
8.7	Solving Inequalities	Plotting inequalities on number line example 1 Plotting inequalities on number line example 2 Writing inequalities Writing an inequality from given information Solving inequalities and graphing on number line Solving multi-step inequalities example 1 Solving multi-step inequalities example 2 Solving multi-step inequalities example 3 Solving multi-step inequalities example 4 (Includes switching direction of inequality)
8.8	Applications of problem solving and inequalities	Inequality word problem example 1 Inequality word problem example 2
	Summary and review (Unit 2)	
	Unit 2 test Solving Equations	
	Unit 3 ☐ Graphs of Linear Equations	
9.1	Graphs and applications of linear equations	Intro to Rene Descartes and Linear Equations Plotting ordered pairs Quadrants of coordinate plane Graphing points and naming quadrant exercise Points on the coordinate plane exercise1 Points on the coordinate plane exercise2 Graphing a linear equation Ordered pair solutions of equations example1 Ordered pair solutions of equations example2 Ordered pair solutions of linear equations exercise1 Graph line from y=mx+b (example 1) **This is very important. Please see your instructor about this Graph line from y=mx+b (example 2) Graph line from y=mx+b (example 3) Rearrange equation to y=mx+b to graph line (example 1) Rearrange equation to y=mx+b to graph line (example 2) Finding solutions that work for x and y
9.2	More with graphing and intercepts	Graph line by finding the x and y intercepts example 1 Graph line by finding x and y intercepts example 2 Finding the x intercept exercise1 Finding the x intercept example2
9.3	Slope and applications	Finding the slope of the line from the graph of the line Intro to Slope 1 Intro to slope 2 Slope of a line with a negative slope

		Finding the slope of the line when given two points Calculating and comparing slopes of different lines Determine slope from two points on a graphed line Determine the slope from two points on a graphed line (example of a line with a slope of zero) Comparing slopes Comparing slopes of different graphed lines exercise Slope of a horizontal line Intro to y=mx+b Word problem with linear equation
9.4	Equations of lines	Equation of line from the graph Finding equations of lines given different information (many examples) Equation of lines that are vertical and horizontal
9.5	Graphing using the slope and y-intercept	Graphing the line using the slope and y-intercept More examples of graphing using y intercept and slope
	Summary and review (Unit 3)	
	Unit 3 test Graphs of Linear Equations	
	Unit 4 Polynomials: Operations and Factoring	
10.1	Integers and exponents *Complete supplementary exercise sheet on exponents (see your instructor	Intro to exponential notation (10.1a) What an exponent means Exponential notation example1 How to handle having a zero as an exponent (10.1b) Evaluating algebraic expressions (10.1c) this video shows how to handle exponents with negative bases is important Negative bases and odd vs even exponents example1 Multiplying powers with like bases (10.1d) Dividing powers with like bases (10.1e) Rewriting negative exponents as positive exponents (1) Rewriting negative exponents as positive exponents (2) Rewriting negative exponents as positive exponents Raising exponents to exponents Properties of integer exponents More on exponents More practice with exponents Practice with exponents
10.2	Exponents and Scientific Notation	Intro to scientific notation (many examples and explanations) Multiplication with scientific notation Scientific notation multiplication Scientific notation division Scientific notation multiplying and dividing example
10.3	Introduction to Polynomials	Identifying the terms of a polynomial (10.3b)
10.4	Addition and subtraction of polynomials	Adding like terms and simplifying polynomials Adding like terms in polynomials Subtracting polynomials (10.4c) Important video about showing how to handle subtraction sign outside a bracket Addition and subtraction of polynomials example1
10.5	Multiplication of polynomials	Multiplying binomials (many good examples of how to do this) Multiplying monomial by polynomial Multiplying two binomials from 10.5C Multiplying two binomials exercise1

10.6	Special products	Squaring a binomial 10.6c (this is an important video)
		Squaring a binomial example1
		Squaring a binomial example2
		Difference of squares example1
10.7	Operations with polynomials in several variables	Adding and simplifying polynomials with more than one variable
		Add polynomials with different variables
		Subtracting polynomials with multiple variables
		Multiplication of polynomials with several variables
10.8	Divide polynomial by monomial	Dividing a polynomial by a monomial example1
11.1 a,b	Introduction to common factoring	Intro to finding GCF
		Finding the GCF of both terms in a binomial example1
		Finding the GCF of both terms in a binomial example2
		Factoring out the GCF from all terms of a trinomial
11.2	Factoring trinomials	Factoring trinomial (*This video is very important)
		Factoring Trinomial example1
		Factoring trinomial exercise1
		Factoring trinomial where GCF must be factored out first (1)
		Factoring trinomial where GCF must be factored out first (2)
11.5 c,d	Factoring differences of squares	Intro to factoring difference of squares
		Factoring difference of squares exercise1
		Factoring difference of squares exercise2
		Factoring difference of squares example1
		Factoring difference of squares example2
	Summary and review (Unit 4)	
	Unit 4 test Polynomials	
	Math 053 review	
	Math 053 final exam	
	Unit 5 – Trigonometry	
5.1	The Right Triangle	Intro to triangles
5.2	Angles and Sides	Name the parts of a right triangle
5.3	The Pythagorean Theorem	Intro to Pythagorean Theorem
		Pythagorean Theorem Example 1
		Pythagorean Theorem Example 2
		Pythagorean Theorem Example 3
		How to use square root key on calculator
5.4	The Tangent Ratio	Trig questions that use tangent ratio
5.5	Using the Tangent Ratio	Using inverse tan to find angle
5.6	The Sine and Cosine Ratios	How to use the calculator to solve Trig questions
		Using the Sine, Cosine and Tangent Ratios
		Use Trig to Solve side length and angles of right triangle
		Sine cos and tangent questions
5.7		Using SOH CAH TOA (1)
		Using SOHCAH TOA (2)
		Trigonometry Word Problem Practice Example 1
		Trig word problems angle of elevation/depression 1
	Practice test in booklet	
	Unit 5 test Trigonometry	
	Unit 6 – Vectors	
p.10	Problem Sets	Addition of two vectors
		Intro to vectors
		Calculate magnitude
		and direction of vector
		Adding two vectors to determine resulting vector
		Adding two vectors (1)
		Add two vectors (2)
		Word Problem with ships and ocean
	Practice test on Vectors	
	Unit 6 test Vectors	