



School of Access
Academic and Career Foundations Department
MATH 038 Fundamental Math for Trades

Course 038 Video Links

Part 1: Unit R Review (Arithmetic Review) No Calculator		
	Unit R- Arithmetic Review(no calculator)	Video Links to Unit R material
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 remainders 2-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 fractions Comparing 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 fraction Dividing fractions Fraction Division: multiply by reciprocal Dividing mixed numbers Dividing Fractions and writing with division symbol Dividing 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 question Estimating a decimal Rounding decimals on number line Practice rounding decimals on the number line
	Unit R Practice Test	

Unit R final test (Nocalculator)

Part 2: Math 038 Course Material B1-B15 (Calculator Allowed)

B-1	pages 1-8	Whole Numbers	Video Links for Online Math Videos to Support Course Instruction and Content
		Addition and subtraction	Carrying to add 3-digit numbers Borrowing to subtract (2)
B-2	pages 9-26	Solve Problems Involving Fractions	
		Learning Task 1: Identify key terms and concepts for working with fractions	Fraction parts explained More on understanding fractions Numerator & denominator explained Equivalent fractions (1) Equivalent fractions (2) Equivalent fractions (3) Fractions in lowest terms Simplifying fractions Comparing fractions (1) Comparing fractions (2) Multiplying fractions (1) Multiplying fractions (2) How to use calculator for fraction questions Mixed numbers & improper fractions Converting mixed numbers into improper fractions (1) Converting improper fractions into mixed numbers Comparing improper fractions and mixed numbers Improper fractions and mixed numbers on number line
		Learning Task 2: Add and subtract fractions	Adding fractions with like denominators Subtracting fractions with like denominators Finding common denominators Adding fractions with unlike denominators (1) Adding fractions with unlike denominators (2) 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 Practice subtracting fractions word problems
		Learning Task 3: Multiply and divide fractions	Multiplying fractions & whole numbers Division that results in a fraction Dividing fractions Multiplying mixed numbers Multiplying fractions & mixed numbers Finding the reciprocal of a number Dividing mixed numbers Dividing mixed numbers and proper fractions Multiplying fractions word problem (1) Multiplying fractions word problems (2) Multiplying fractions word problem (3) Multiplying fractions word problems (4) Dividing fractions word problem (1) Dividing fractions word problems (2) Dividing fractions word problems (3) Dividing fractions word problem (4) Dividing fractions word problems (5)
B-3	pages 27-40	Solve Problems Involving Decimal Fractions	
		Learning Task 1: Identify key terms and concepts for working with Decimals	Word name for decimal number Decimals on a number line Rounding decimals (1) Rounding decimals (2) Comparing decimals Estimating with decimals
		Learning Task 2: Convert between decimals and fractions	Converting from decimal to fraction notation 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 fractions to decimals (1) Converting fraction to a decimal (2) Converting a fraction to a repeating decimal
		Learning Task 3: Add, subtract, multiply and divide decimals	Adding decimals Multiplying decimals: how to Multiplying decimals by power of 10 Dividing decimals (1) Dividing decimals (2) Dividing decimals by a power of 10 (1) Dividing decimals by a power of 10 (2)
B-4	pages 41-52	Convert Metric and Imperial Measurements	
		Learning Task 1: Use metric measurements	Intro to metric system Move decimal right or left for metric conversions Converting between metric units Converting metric to metric Converting kilograms to grams

		Learning Task 2: Convert between metric and imperial	Converting metric to imperial (10 cm to inches) Converting American gallons to cups Convert inches to yards Practice converting pounds to ounces Converting feet and inch units within Imperial system American units distance American units weight/mass American units volume/capacity American units volume/capacity (2)
B-5	pages 53-64	Solve Problems Involving Ratio and Proportion	
		Learning Task 1: Solve problems using ratio and proportion	Introduction to ratios Ratios as fractions in simplest form Simplifying ratios (1) Simplifying ratios (2) Equivalent ratios in higher terms Unit rate Unit prices Understanding proportions Finding an unknown in a proportion Intro to cross multiplication Solving proportions using cross-multiplying Solving proportions, Three methods Map scale
	pages 65-76	Solve Problems Involving Percent	
		Learning Task 1: Convert between percents and common or decimal fractions	Percent as decimal Converting percent to decimal practice Percent of a total Finding percent of total
		Learning Task 2: Solve equations and word problems using percent	Meaning of percent (1) Meaning of percent (2) Meaning of percent (3) Percent as decimal Solve equations and word problems using percent (1) Solving equations and word problems using percent (2) Calculating percent decrease or percent increase Calculating a percent increase using the equation method Calculating a percent off using equation method Calculating amount of discount and final price Calculating percent change using proportion method Calculating commission using equation method Calculating rate of discount using proportion method
B-7	pages 77-86	Solve Problems Involving Powers and Roots	Exponents explained Comparing powers (exponents) and multiplication How to use exponent key on Sharp calculator Order of operations explained Order of operations
B-8	pages 87-102	Interpret Simple Graphs	Average, median and mode explained
		Learning Task 1: Locate information on line, bar and circle graphs	Reading pictographs Reading bar graphs Reading circle/pie graphs Reading line graphs
		Learning task 2: Draw line and bar graphs	Creating bar graphs

B-9	pages 103- 118	Solve Problems Involving Simple Formulas	Calculate area of trapezoid using formula
		Learning Task 1: Solve Problems Involving simple formulas	Solving equations (beginning of Algebra) Important video Intro to Algebra Addition Principle example 1 Addition Principle example 2 Using the multiplication principle to solve an equation Converting units of time Celsius & fahrenheit conversion Comparing fahrenheit and celsius temperatures Using formula to convert Celcius temperature to fahrenheit Using both addition and multiplication principles together (1) Using addition and multiplication together example (2) Using addition and multiplication principles example (3) Order of operations Calculate length of a rectangle when given width and area
B-10	pages 119- 132	Solve Problems Involving Perimeters, Areas and Volumes	
		Learning Task 1: Solve problems involving perimeter, area and volume	Introduction to perimeter Finding perimeter of a square and rectangle Interactive perimeter and area comparison Finding perimeter and area of rectangle Introduction to area Picturing area Understanding area Calculating area (1) Calculating area (2) Find the area of a room to be carpeted Area of triangle practice How to use the square root key on calculator
			Circle parts Radius, diameter and circumference Area of a circle Word problem area of circle Area of irregular shapes
			Introduction to volume Intro to length, Area, Volume characteristics Volume explained Volume as area x length (or height) Volume of rectangular prism Rectangular prism word problem Volume of triangular prism Volume word problem Volume of irregular shapes How to use the cube root key on calculator Similar triangle relationships /calculating missing sides
			Volume of rectangular prism Compare volumes of rectangular prism Volume word problem Length of side of a cube Calculating a side length when given the volume of a rectangular prism
B-11	pages 133- 154	Solve Problems Involving Angles, Triangles and Geometric Construction	

		Learning Task 1: Use angles	How to measure angles Parallel and perpendicular lines Using a protractor How to measure an angle with a protractor Acute, obtuse and right angles Angle types practice
			Parallel lines and transversal angles practice Angles at the intersection of two straight lines Practice angles at intersection of two straight lines Complementary and supplementary angles lesson Identifying parallel and perpendicular lines lesson Intro to Pythagorean Theorem Pythagorean Theorem question Pythagorean Theorem word problem Pythagorean Theorem practice questions Pythagorean Theorem 3:4:5 triangle Determining the measurement of a missing angle in a triangle Determine measurement of angle in a triangle Identifying similar triangles
		Learning Task 2: Apply geometric constructions	Constructing a perpendicular bisector with a compass (1) Construct a perpendicular bisector with a compass (2) How to bisect an angle using a compass
		MATH 038 Practice Test	
MATH 038 Final Test			