



Trades Access Common Core
Competency D-1: Solve Trades Math Problems
BCcampus Open Ed (Open.bccampus.ca)

Video Links

Learning Task 1: Use arithmetic and estimation		
Page	Topic	Video Links
11	Key terms	Common factor Denominator Difference Equivalent Factor Improper fraction Like fractions Lowest common denominator (LCD) Mixed number Numerator Prime number Product Proper fraction Quotient Reciprocal Sum Terms (in a fraction) Unlike fractions
12	Numbers	Place Value (1) Whole numbers Decimal fractions
13 14 15 16		Rounding numbers Add or subtract decimals Multiply whole numbers and multiply decimals Dividing whole numbers and decimals Dividing numbers: intro to remainders 2-digit divisors Dividing to get a decimal answer Dividing to get a decimal answer practice
18		Order of combined operations Comparing decimals Comparing decimals, smallest to greatest
20	Fractions	Fractions explained Use fraction key on Sharp calculator More on understanding fractions Numerator & denominator explained Converting mixed numbers into improper fractions (1) Converting mixed numbers to improper fractions (2)
23	Fractions in lowest terms	Reduce fractions using calculator fraction button Fractions in lowest terms Practice simplifying fractions What are prime numbers Prime factorization to reduce fractions
24 25 26	Adding and subtracting common fractions	Adding fractions with like denominators Finding common denominators Add fractions different denominators Adding mixed numbers Adding mixed numbers with unlike denominators
26	Subtracting fractions	Subtracting fractions with like denominators Subtracting fractions with unlike denominators Subtracting mixed numbers (1) Subtracting mixed numbers (2)

28	Multiply common 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
30	Dividing common fractions	Division that results in a fraction Dividing fractions Fraction Division: multiply by reciprocal Dividing mixed numbers Dividing Fractions and writing with division symbol Summary video for +, -, x, divide fractions)
31	Solve word problems	Tips for doing word problems Multiplying fractions word problem (1) Multiplying fractions word problems (2)
34	Converting between common fractions and decimal fractions	Convert decimals to fractions
35		Convert fractions to decimals
36	Estimation	How to estimate an answer to a math question Estimate answer to decimal question
37	Using a calculator	How to use exponent key on calculator Using a scientific calculator workshop Exponents explained Difference between powers (exponents) and multiplication
41	Self-Test 1	
Learning Task 2: Work with measurements		
49	The metric system Key terms Area	Intro to metric system Area explained
50	Metric prefixes	Converting between metric units method 1 (move decimal left or right) Convert length metric to metric method 2 (multiply/divide by 10, 100 etc)
53	Length	Metric length conversions
54	Area	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
56	Area Conversions	Convert square metres to hectares
57	Volume and Capacity	Cubic centimetres and mls (1cc = 1ml) 1000 litres = 1 cubic metre
59	Mass	Convert Kilograms to grams
60	Relationship between volume, capacity and mass	1 cc = 1 ml = 1 g 1 cubic meter = 1000 Liters = 1 metric tonne
60	Temperature	Some notable celsius temperatures Compare Fahrenheit and Celsius temp Convert Fahrenheit to Celsius
61	Imperial system of measurement	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)
63	Metric and imperial conversions	Converting metric to imperial (10 cm to inches) Practice converting metric to imperial
66	Self-Test 2	

Learning Task 3: Solve problems involving ratio and proportion		
69	Key terms Cross multiplication	How to cross multiply Use cross multiply to see that two fractions are equal Comparing two fractions using cross multiply
69	Direct proportion Inverse proportion Inverse ratio Proportion	Direct proportion Inverse proportion Inverse ratio (or what is the reciprocal) Equivalent ratios or fractions
70	Working with ratios	Different ways to write ratios
70	Ratios	Working with ratios and writing in correct order
71	Cross multiplication	Cross multiply to see if two fractions are equal Solve proportions with cross multiplication
71	Solving word problems with ration and proportions	Unit rate Unit prices Understanding proportions Example word problems that use proportion and cross multiply
72	Similar Triangles (solve using proportions)	Using cross multiply to solve similar triangles
74	Scale drawings	Example word problem of Scale drawings and using cross multiplication
77	Self-test 3	
Learning Task 4: Solve problems involving percents		
83	Converting between decimals and percents	Intro to percent Convert percents to decimals (move decimal to the left two place values) Convert decimals to percent (move decimal to the right two place values)
85	Converting between fractions and percents	Convert a fraction to a percent (two methods) Convert a percent to a fraction
87	Solve percent equations and word problems	Solve percent questions using multiplication (method 1) Solve percent questions using proportion (method 2) Another example of using proportions to solve percents (using method 2)
89	Using calculator's percent function to solve problems	Use percent key to solve questions Use percent key on phone to solve questions
90	Common percent applications	Sales tax using proportion method and multiplication method Calculate simple interest
92	Discounts and increases	Calculate final amount after percent added or subtracted
93	Self-Test 4	
Learning Task 5: Solve problems involving powers, roots, and scientific notation		
97	Key terms Base Cube Cube root Exponent Index Power Radical Radicand Root Root sign Scientific notation Square	Base of exponent Cube Cube root Exponent Index Power Radical Radicand Root Root sign (or radical sign) Scientific notation Square
98 99 100	Powers	How to read powers How to do exponents with calculator Raising to power of zero
101	Application of powers	Using exponent key to calculate area of circle Using exponent key to calculate volume of sphere
102		Compound interest formula
103	Square roots	Square root explained Using square root key on calculator Review of exponents and roots

104	Indexed radicals	Using calculator for 5th, 6th etc.
105 106	Scientific notation	Scientific notation explained Example questions with scientific notation Using EE or EXP key for scientific notation on calculator
107	Self-Test 5	
Learning Task 6: Solve problems using equations and formulas		
109	Key terms	Addition/subtraction principle Binomial Brackets (or order of operations) Coefficient Common factor Equation Expression Factor of polynomial Formula Like terms Monomial Multiplication/division principle Polynomial Sign Solution Term Trinomial Variable
110	Solving equations	How to solve two-step equations
111	Multiplication and division principles	How to solve one step multiplication or division equations
112		How to use the reciprocal to solve Algebra equations containing fractions
113		Examples of two-step algebra solve for variable
115		Example with more than one occurrence of variable Solving perimeter question using algebra
116	Equations with brackets	Solve an algebra equation with brackets
117	Formulas	Solve area of rectangle question $A=L \times W$ Solve perimeter of rectangle questions $P=2L+2W$ Rearrange temperature formula
118	Formula manipulation (how to rearrange the letters using algebra steps)	Rearrange formula example 1 Rearrange formula example 2 Rearrange formula example 3 Rearrange formula example 4
120		Rearrange area of circle formula
122	Self-Test 6	
Learning Task 7: Solve problems involving perimeters, areas, and volumes		
127	Key terms	Altitude of a triangle Area Base of a triangle Circumference Composite Geometry shape Diameter Formula Height (same as altitude) Perimeter Perpendicular Pi Quadrilateral Radius Volume
128		Different geometrical 2-dimensional shapes
128	Perimeter	Perimeter of square Finding perimeter of a rectangle
129 130 131		Find perimeter (circumference) of a circle Perimeter of parallelogram Perimeter of semi circle

131 132 133	Area Area formulas Area of trapezoid	Finding perimeter and area of rectangle Calculating area Area of a trapezoid
134 134 135 135	Examples of area formulas	Area of circle formula explained Trapezoid Triangle Circle
136 137 138	Areas of irregular shapes	Quadrilateral broken into triangles Circle area removed from rectangle area Area of rectangle plus semi circle
139 141	Volume	Volume of rectangular cube (LxWxH) Volume of a triangular prism
142	Cylinder Pyramid Cone	Volume of cylinder Volume of square pyramid Volume of cone
143	Sphere	Volume of Sphere
145		Volume of irregular solid
147		Calculate Width given area and length
148	Self-Test 7	
Learning Task 8: Solve problems involving geometric shapes		
154	Key Terms	History of Geometry Lines, parallel line, plane, point, ray, segment
157 158 159	Angles	Intro to angles Size of angles How to use a protractor
161	Angles: Types and properties	Angles: Types and properties Complementary and supplementary angles
164 165 168		Calculate missing angles (vertical angles) Transversals and angles in non-parallel lines Parallel Lines transversals and angles
170 172 173	Closed shapes Triangles	Polygons classified by number of sides Proof that angles of a triangle add to 180 degrees Find missing angle in a triangle
171 174 174 175	Quadrilaterals Special quadrilaterals	What is a quadrilateral Trapezoid defined Parallelogram defined Rhombus
176	Circles	Parts of a circle
176 178	Triangles	Classifying triangles Angles in isosceles triangles Angle and sides of equilateral triangle
179	Finding missing angles of triangles	Find missing angles in isosceles triangle
181 182	Similar figures	What it means to say that two shapes are mathematically "similar" Similar triangle calculations
183	Congruent triangles	What does congruent mean Use side-side-side to prove two triangles are congruent Use angle-side-angle to prove two triangles are congruent How to prove two triangles are congruent
186	Pythagorean theorem	Pythagorean theorem proof Pythagorean theorem explained Pythagorean theorem practice question
188	Self-Test 8	