Homework Help

Please use the list below as a way to demonstrate the 'Big Ideas' to your class or post as a list for the class to see where they can get help on a specific topic. All Session titles are web linked to make this process easier for you and your students. Remember too, that the students have the ability to log in and 'Ask a Tutor' specific questions that may not be answered in the lists below. A Glossary of Terms is also available on the Homework Help site to help with clarifying terms as the students require.

** This is a working list which will be updated as resources become available.

Grade 9 Principals of Mathematics (MPM1D)

EQAO Preparation / Review

** Note these are not listed in the general curriculum ties but may be used at any point during a unit.

** There are many other EQAO resources available – the ones listed above are marked as 'Academic'.

** Also there are resources from the MFM1P course which may be used for the MPM1D course. Preview selection to make sure it is reasonable for your students.

Unit One: Number Sense and Algebra

Big Idea	Resource Type	Session Title
Powers and exponents	Best Sessions	
	Listen and Learns	
	Interactive	[Powers](#)
Percent, ratio, proportion	Best Sessions	
	Listen and Learns	
	Interactive	[Percentages](#)
Expanding/ Simplify / solving	Best Sessions	**Algebra: expanding algebraic expressions** Learn how to expand an algebraic expression. **Algebra: simplifying polynomials by collecting like terms** Simplify this expression by collecting like terms. **Expand using distributive property: 2/3 (6x-9)** Expand an expression by multiplying out a fraction. **How to solve alebraic equations containing fractions** Use the LCM to deal with the fractions before solving this equation. **Simplify this fraction expression using order of operations: 1/4-(5/4divided by3/4)exponent 2** Simplify an expression using fraction and exponent rules. **Word Problem using algebra to solve for age: The ages of Kirsten and Victor total 27 years. When Victor's age plus twice Kirsten's age is 43, what will their ages be?** Find the age of each person using equations and algebra.
	Listen and Learns	**Solving Equations: Multiple-step solutions** Runtime: 37
	Interactive	[Simplifying Polynomials by Combining](#)

** for fraction review see the grade seven HH curriculum ties

Unit Two: Linear Relationships

Big Idea	Resource Type	Session Title
Scatter plots and graphing	Best Sessions	
	Listen and Learns	**Measurement: Optimization** Runtime: 45 min
	Interactive	The XY-Plane
Variables, trends, relationships	Best Sessions	
	Listen and Learns	**Making Equations from Real-Life Problems** Runtime: 26 min
	Interactive	Word Problems: Finding a Pattern Linear Relations
Table of values	Best Sessions	
	Listen and Learns	
	Interactive	Word Problems: Using a Table

Unit Three: Analytic Geometry

Big Idea	Resource Type	Session Title
Linear and non linear graphing	Best Sessions	
	Listen and Learns	
	Interactive	Linear Relations
Equation of a line y=mx+b	Best Sessions	**Create an equation of this line: the same x intercept as the line 4x - 5y = 12 and is perpendicular to the line 3x + 7y= 21** Create an equation in the form y=mx+b using the given information. **Linear Equations: Find an equation for a line with a slope 6, passing through (-1,4)** Find an equation of the line given slope and a point on the line. **Graphing y=mx+b** Learn to graph a linear equation, y=mx+b, and how to understand slope. **Linear Equations: Write an equation of the line parallel to 2x+y-2=0 and passing through the point (4,5)** Find an equation of a line using the information given. **y=mx+b: Use algebra skills to solve a direct variation word problem** Find the constant that varies the price.
	Listen and Learns	
	Interactive	Slope Calculation
Slope – determine, rate of change	Best Sessions	**Find slope, y-intercept and then graph y=-2x-5.** Learn how to graph a linear equation using the slope and y-intercept **Slope:** Find the slope of a line using either rise over run or the slope point formula.
	Listen and Learns	**Rate of Change** Runtime: 24min
	Interactive	Slope Calculation

Intersection	Best Sessions	**Do these lines intersect at the given point? The given point is (2,3). The lines are y = x+1 and y= 4x-5.** Determine if two lines intersect at a given point. **Find the point of intersection by graphing.** Use a graph to find where two lines intersect. **Find the point of intersection using y=mx+b** Find the point of intersection by graphing two lines. **Intersection of lines: Use a table of values to find the graphical intersection of these two lines.** Find the intersection of these lines y=-x+1 and y=-1/2x
	Listen and Learns	
	Interactive	

Unit Four: Measurement and Geometry

Big Idea	Resource Type	Session Title
Perimeter, area	Best Sessions	**Perimeter using algebra: Rectangle with sides 3x and 2x-5 (AUDIO)** Find the perimeter of a rectangle when the measurements are algebraic expressions.
	Listen and Learns	**Measurement: Optimization**
	Interactive	
Volume, surface area	Best Sessions	**Cone: volume and surface area** Understand the difference between 2D and 3D measurements.
	Listen and Learns	**Measurement: Optimization** Runtime: 45min
	Interactive	Volume Calculation

Pythagorean theorem	Best Sessions	**Pythagorean's theorem: Find the distance from a port to the ship.** Solve a word problem by drawing a diagram. Recognize the distance you need to find is the hypotenuse of a right angle triangle. **Find the diagonal of a rectangle using Pythagorean's theorem** Use pythagorean's theorem to find the longest distance inside a rectangle.
	Listen and Learns	
	Interactive	Pythagorean Theorem
Angles	Best Sessions	**Angle measurement: interior angles of polygons** How to determine the interior angle sum of any polygon. **Angles: Find the missing angles in a triangle** Use angle relationships to find the missing angles in this triangle **Angles: Find missing angles using parallel lines** Use the angle relationship to find missing angles. **Angle measurement: interior angles of polygons** How to determine the interior angle sum of any polygon. **Interior and Exterior angles of polygons** Use the formula to find the measure of a polygon's interior angle. **Interior Angles of concave polygons** Use what you know about regular polygons to explore the interior angles of concave polygons.
	Listen and Learns	
	Interactive	

EQAO Preparation / Review

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Big Idea	Resource Type	Session Title
EQAO!	Best Sessions	**What kinds of questions are on the EQAO?** Be prepared for the EQAO by knowing the topics and kinds of questions there will be. **EQAO: Tips on how EQAO marks/scores your test (seminar)** Learn what you EQAO mark means and how to earn the best mark. **EQAO: Hints for writing the Open Response questions on EQAO (seminar)** Learn strategies to successfully write the 'open response' section of the EQAO. **EQAO tips for dealing with stress (seminar)** EQAO can be stressful. An experienced teacher shares some tricks and tips for alleviating the stress of EQAO. **EQAO: Polygon Geometry (seminar)** See how a geometry question would be solved on the EQAO. **EQAO Exponent rules: division** Learn how to deal with exponents when dividing. **EQAO Exponent rules: multiplication** Simplify using exponent laws. **EQAO Exponent rules: a multi step problem** **Use all of the exponent rules to solve this multi-step problem.** **EQAO Exponent rules: Power of a Power** **Understand the difference between multiplying exponents and having a power to a power.** **EQAO Maximum volume** Determine the maximum volume for a rectangular prism. **EQAO Volume of a cone** Solve for the radius of a cone when you are given the volume. **EQAO Volume of prism: Working backwards, given the volume** Work backwards from the volume formula to find the height of a prism.