**Grade 8 Math Exam Review:**

1. **Representing Data: (chapter 1)**
* How to read info from a graph
* Which types of graphs are best for different info:
	+ - Bar
		- Double bar
		- Line
	+ Double line
	+ Pictograph
	+ Circle / Pie graph
* How to correctly create graphs for info:
	+ - Tally charts, frequency tables
		- Title, axis labels, coordinates / bars
* Circle graphs – calculate percentages, decimals, and degrees
* Critique how graphs can be or are drawn incorrectly, and explain how that misrepresents info
1. **Ratio and Rate: (chapter 2)**
* Two and three term ratios
* Part to part & part to whole ratios
* Rate, unit rate, unit price
* Proportions
1. **Pythagorean Theorem: (chapter 3)**
* Squared numbers & perfect squares
* Square roots (and estimating them)
* Right triangles
* Using the Pythagorean Relationship (a2 + b2 = c2, ) or (c2 – a2 = b2)
1. **Percent: (chapter 4)**
* Conversions from:
	+ Percent to decimal
	+ Percent to fractions
	+ Decimal to fraction
	+ Decimal to percent
	+ Fraction to decimal
	+ Fraction to percent

**Percent continued…**

* Percents smaller than one and larger than 100 in real life
* Finding percent *of* a number
* How to combine percentages, and situations when you can’t
1. **Surface Area: (chapter 5)**
* Recognize and create *views* and *nets* of 3D objects
* Review from grade 7 - Area formulas for:
	+ Circles
	+ Squares
	+ Triangle
	+ Rectangles
* Surface area formulas:
	+ Cylinders
	+ Cubes
	+ Triangular prisms
	+ Rectangular prisms
1. **Fraction Operations: (chapter 6)**
* Review from grade 7:
	+ types of fractions (proper, improper, mixed)
	+ equivalent fractions
	+ common denominators & LCM
	+ lowest terms (using GCF)
	+ adding and subtracting fractions (need common denoms)
* Multiplying fractions and dividing by whole numbers
* Multiplying fractions by fractions
* Dividing fractions by fractions
* Simplifying fractions using cross cancellation
* BEDMAS with fractions
1. **Volume: (chapter 7)**
* Volume formulas for :
	+ Cylinder
	+ Cube
	+ Rectangular prism
	+ Triangular prism
* Solving problems by combining 3D shapes
1. **Integers: (chapter 8)**
* Review from grade 7:
	+ integers in real life
	+ adding integers (neg + neg, neg + pos, pos + pos)
	+ subtracting integers (neg – neg, pos – pos, neg – pos, pos – neg)
* multiplying integers
* dividing integers
* BEDMAS with integers
1. **Linear Relations & Solving Equations: (chapter 9 & 10)**
* Describe patterns in words
* Continue patterns
* Create table of values from pattern
* Graph patterns on coordinate plane (line graphs)
* Create algebraic expression from pattern (variables, constants and coefficients)
* Know what a linear relation is, what looks like on graph.
* Use graph, table or expression to solve for specific values in pattern
* Explain real life situations that expressions could represent
* Solve one step equations by inspection (mental math) and opposite operations (backwards BEDMAS)
* Solve two step equations by inspections (mental math) and opposite operations (backwards BEDMAS)