**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)