List of Topics for the Final – Honors Math 8

WAYS TO STUDY:

- Review notes
- Review homework assignments
- Review quizzes (ask me)
- Review lessons from my website: (lischwe.weebly.com)
- Looking at the textbook or textbook website (connected.mcgraw-hill.com)
- Replay the Kahoots: 1st Semester Topics: **goo.gl/kThuVD** 2nd Semester Topics: **goo.gl/hH1nnt**

Unit 1 – Rational Numbers

- Converting fractions to decimals, decimals to frac.
- Converting repeating decimals to fractions
- Finding square/cube roots that are whole numbers
- Estimating roots that are decimals
- Solving x^2 and x^3 equations
- Rational vs. Irrational numbers

Unit 2 - Functions

- What is/is not a function
  - Table, Graph, or Situation
- Evaluating using function notation (like f(3))
- Linear vs. nonlinear equations
- Linear vs. nonlinear tables
- Writing an equation from a table
- Graphs of stories (Tom climbed a hill, ran down, etc.)

Unit 3 – Linear Relationships

- Rate of change of a real-world scenario
- Finding slope from a graph
- Finding slope from 2 points without a graph
- Writing y = mx + b equations from a graph
- Graphing y = mx + b equations
- Interpreting the meaning of the slope and y-intercept in a story problem
- Proportional vs. nonproportional

Unit 4 – Solving Equations

- Solving equations:
  - Variables on both sides
  - With fractions
  - Distributive property/combining like terms
- Writing equations from a real-world situation
- Equations with no solution or infinite solutions

Unit 5 – Systems of Equations

- Solving systems of equations by:
  - Graphing
  - Substitution
  - Elimination
- System of equations story problems
- Checking the solution of a system

Unit 6 – Exponents & Scientific Notation

- Power times a power ($x^9 \bullet x^3$)
- Power divided by a power (x^9/x^3)
- Power to a power $(x^9)^3$
- Zero and Negative Exponents (3^0 = ?, 2^{-3} = ?)
- Converting to and from Scientific Notation
- Adding, Subtracting, Multiplying, Dividing Sci Not.

Unit 7a – Angles

- Complementary, Supplementary, Vertical Angles
- Parallel Line Angles: Corresponding, Alternate Interior, Alternate Exterior, Same-side Interior
- Triangle Angle Sum Rule

Unit 7b – Transformations

- Translations
- Reflections (x-axis, y-axis, across x = 5 or y = 5, etc.)
- Rotations (without patty paper)

Unit 8 – Pythagorean Theorem

- Finding the hypotenuse of a right triangle
- Finding a leg of a right triangle
- Finding the distance between two points on a graph

Unit 9 – Volume

- Area & Circumference of a circle
- Rectangular and Triangular Prisms
- Rectangular Pyramids
- Cylinders, Cones, Spheres

Unit 10 – Bivariate Data

- Choosing a good line of best fit for a scatter plot
- Interpreting the slope of a line of best fit
- Finding percentages from frequency tables

Other Topics

- Performing a dilation on the coordinate plane
- Finding the scale factor of a dilation on a graph
- Finding the probability of compound events