Sec 4 SN Topics List

Term 1:

Pre-Algebra (review)
- □ Appropriate use of brackets (understanding of distributive property)
- □ Times tables & perfect squares
- □ Properties of exponents
- □ Solving equations of degree 1

Radicals
- □ Simplifying
- □ Add, subtract, multiply and divide radicals
- □ Rationalize the denominator of a radical which is a monomial
- □ Rationalize the denominator of a radical which is a binomial

Factoring
- □ Greatest common factor
- □ Difference of squares
- □ Perfect square trinomial
- □ Sum and product
- □ Sum & Difference of Cubes*

Functions
- □ Definition/Identifying a function
- □ Function notation
- □ Increasing/Decreasing (Variation)
- □ Absolute max, min/Relative max, min
- □ Initial value (y-intercept), Zeros
- □ Positive/Negative (Signs)

Linear Functions
- □ Slope, initial value
- □ Finding the rule given point/slope
- □ Finding the rule given 2 points
- □ Finding the rule from a graph
- □ Graphing lines from slope/int form

Term 2:

Systems of Equations
- □ Solving by Comparison
- □ Solving by Elimination
- □ Solving by Substitution
- □ Applications

Quadratic Functions
- □ Basic
- □ Graphing
- □ Standard/general/factored forms
- □ Quadratic inequalities
- □ Rule - Given vertex & a point
- □ Rule - Given zeros & a point
- □ Rule - Given table of values
- □ Given 2 symmetric pts and min/max
- □ Finding the zeros
- □ Solving by factoring
- □ Solving by completing the square
- □ Solving by Quadratic Formula
- □ Importance/Applications
- □ Semi-Linear Systems

Inequalities
- □ One variable quadratic inequalities
- □ Two variable inequalities
  - o linear
  - o quadratic

Greatest Integer Functions
- □ Basic
- □ Evaluating a Greatest Integer Function
- □ Solving GI equations
- □ Graphing
- □ Given graph find the rule
- □ Applications

Midyear Exam

Statistics
- □ Definition/Notation
- □ Linear Correlation: Qualitative
- □ Linear Correlation: Quantitative
- □ Line of Regression: Mayer Line / Median-median Line
- □ Applications

Term 3:

Analytic Geometry
- □ Lines – slope int, general, symmetric
- □ Parallel & Perpendicular Lines
- □ Linear inequalities
- □ Distance between 2 points
- □ Midpoint
- □ Part to part/Part to whole ratios
- □ Find Internal point of division given a:b
- □ Find a:b given internal point of division
- □ Find endpoint given point of division
- □ Distance point to a line
- □ Applications

Rational Expressions
- □ Simplifying
- □ Multiplying/Dividing
- □ Adding/Subtracting

Isometric Triangles
- □ Definition
- □ SSS/ASA/SAS
- □ Proofs

Similar Figures
- □ Definition
- □ SSS/SAS/AA
- □ Perimeter and Area of figures
- □ Area and Volume of solids
- □ Similarity – ratio of side, area, volume
- □ Equivalent figures – area/volume
- □ Proofs

Trigonometry
- □ Definition
- □ Metric Relations in right triangles
- □ Similar right triangles, special triangles
- □ Sine, cosine & tangent rations
- □ Finding a missing side in a rt triangle
- □ Finding a missing angle in a rt triangle
- □ Sine Law
- □ Law of Cosines – finding side length
- □ Law of Cosines – finding angle
- □ Area of triangles
- □ Applications

Equivalence & Similarity
- □ Definition of Equivalence
- □ Similarity Ratios
- □ Maximizing and minimizing perimeter/area/volume
- □ Applications