



## Review Topics for Math 11 Competency Exam

1. Evaluating algebraic expressions
2. Solving the following types of equations:
  - a. Linear
  - b. Radical
  - c. Fractional (or rational)
  - d. Trigonometric
  - e. Exponential (not requiring logarithms)
3. Simplifying:
  - a. Fractional expressions (adding, subtracting, multiplying, and dividing)
  - b. Radical expressions (adding, subtracting, multiplying, dividing, and rationalizing)
  - c. Expressions with fractional exponents (know how to convert between fractional exponents and radicals)
4. Factoring polynomials
5. Domains and ranges of functions
6. Trigonometric ratios (SIN, COS, and TAN) and the Sine and Cosine Laws. Be able to use these to solve triangles and apply them in solving word problems.
7. Functions and relations:
  - a. Distinguishing between functions and non-functions
  - b. Using function notation
8. Graphing (including changes by translations, dilations, and reflection):
  - a. Linear functions
  - b. Quadratic functions
  - c. Radical functions
  - d. Exponential functions
9. Word problems involving
  - a. Maxima/minima
  - b. Direct variation
  - c. Inverse variation
10. Geometry: circle geometry and being able to apply the rules for chords, radii, etc.

NOTE: Calculators are not permitted for this exam.