Unit 2A: Unit 2A - Test Topics

I. Define a Relation, a Domain, a Range, and a Function.

II. Given a Relation (As a set of ordered pairs or a table of values)
      1. Find the domain and range
      2. Determine whether or not the relation is a function (mapping)
      3. Use function notation to write the ordered pairs
      4. Evaluate functions with given inputs.
         (That is, evaluate $f(x)$ at a particular value of x)
      5. Find the input(s) that yield a desired function's output.
         (That is, find x if the value of $f(x)$ is given)
      6. Interpret points in the context of a real world problem
      7. If the relation is a function, determine whether it is even, odd, or neither
      8. Evaluate composite functions

III. Given a Relation (As a graph)
      1. Find the domain and range
         (Recognize holes and asymptotes and other points of discontinuity)
      2. Determine whether or not the relation is a function (vertical line test)
      3. Use function notation to write functions
      4. Evaluate functions with given inputs.
         (That is, evaluate $f(x)$ at a particular value of x)
      5. Find the input(s) that yield a desired function's output.
         (That is, find x if the value of $f(x)$ is given)
      6. Interpret points in the context of real world problems
      7. If the relation is a function, determine whether it is even, odd, or neither
      8. Evaluate composite functions

IV. Given a function as an equation:
      1. Find the domain.
         (Note where the function is undefined - such as when the denominator is zero or
         when a radicand is negative)
      2. Use function notation to write functions
      3. Evaluate functions with given inputs.
         (That is, evaluate $f(x)$ at a particular value of x)
         Evaluate linear, quadratic, cubic, exponential, radical, piecewise, and step functions.
      4. Find the input(s) that yield a desired function's output.
         (That is, find x if the value of $f(x)$ is given)
           Algebra Skills: Factoring / Zero Product Property / Solving Absolute Value
           Equations / Using the definition of $\sqrt{x^2}$
      5. Interpret points in the context of real world problems.
      6. Determine whether the function is even, odd, or neither.
      7. Evaluate composite functions.
      8. Simplify composite functions of x.
      9. Write functions in real world context.
         (Review Setting up and Solving Linear Equations)