HON 210 Exam II Review Topics

I. Algebraic Recreations
   a. Translate problems into equations
   b. Age Problems
   c. Uniform motion: rate-time-distance
   d. Work Problems
   e. Types
      i. Linear, one variable
      ii. Quadratic equation
      iii. Systems of equations
   f. Review Practice Problems

II. Numbers
   a. Divisibility and divisors
   b. Prime vs Composite
   c. Special numbers – prime, perfect, amicable
   d. Greatest Common Divisor
   e. Sieve if Eratosthenes
   f. Prime Factorization
   g. Fundamental Theorem of Arithmetic
   h. Linear Diophantine Equations
      i. Solvability
      ii. Method of solution
   i. Congruences
      i. Remainder classes modulo *d*
      ii. Properties
      iii. Cancellation
      iv. *a* congruent to *b* mod *d*.
      v. Solving Linear Congruences
   j. Digital roots
   k. Casting out Nines

III. Number Bases
   a. Binary, Decimal, Sexagesimal, Hexadecimal, etc.
   b. Changing bases from/to base 10.
   c. Addition and multiplication in other bases.

IV. Cryptarithmetic