

# **Midterm Review Major Concepts per Section Summary**

- Unit A (Functions & Limits)
  - 1.1-Functions; vertical line test, interval notation,  $f(3)$ , piece-wise
  - 1.2-Analyze Graphs; D&R, intercepts (synonyms)
  - 1.3-Continuity, End Behavior & Limits (Removable/non, infinite, jump)
  - 1.4-Critical Points; increasing(x-values), decreasing(x-values), local max/min
  - 1.5-Parent Functions & Transformations (see chart); translation, reflection, Dilation
  - 1.6-Compositions (ie  $f \circ g$ )
  - 1.7-Inverse(exchange & solve)
- Unit B (Polynomials, Exponents & Logs)
  - 2.1-Predict shape of polynomial D/R, C, Int, D/I, EB
  - 2.2-Leading term test, multiplicity, zeros, factor by grouping
  - 2.5-Rational functions, VA/HA & holes
  - 3.1-Exponential functions; transformations & formulas
  - 3.2-Log functions and graphs
  - 3.3-Properties of logs; change of base, expand and condense
  - 3.4-Exponent & log equations
  - 3.5-Regression; LnReg & ExpReg
- Unit C (Conics)
  - Completing the square
  - 7.1-Parabolas
  - 7.2-Ellipses & Circles
  - 7.3-Hyperbolas; discriminant
- Unit D (Sequences & Series)
  - 10.1-Basics and sigma notation
  - 10.2-Arithmetic
  - 10.3-Geometric (converge/diverge)
- Unit E (Matrices)
  - 6.0-Add, subtract, scalar multiplication
  - 6.2-Multiply, identity, inverse
  - 6.3-Rref & apply