

# Homework 116

Students are required to turn in 2 problems for each class meeting, beginning with the third class meeting. There is a longer first homework assignment of a review nature that is due at the second class meeting. This first assignment replicates the Math 105 final exam. Homework is due at the beginning of each class meeting. Late homework will only be accepted with corroborating evidence (doctor visit, etc). These problems are to be corrected and returned to the students at the next class meeting. The following problems are assigned and will be collected :

- Chapter 2: Graphs
  - Section 2-2 Distance Formula: #48, #62.
- Chapter 9: Additional Topics in Analytic Geometry
  - Section 9-1 Conic Sections: Parabolas: #46, #48.
  - Section 9-2 Ellipse: #16, #28.
  - Section 9-3 Hyperbola: 16, #50.
  - Section 9-4 Translation of Axes: #24, #70.
- Chapter 10: Systems of Equations
  - Section 10-6 Systems of Nonlinear Equations: #32, #40.
- Chapter 11: Sequences, Induction and Probability
  - Section 11-1 Sequences and Series: #28, #72.
  - Section 11-2 Mathematical Induction (overview): #18,#22
  - Section 11-3 Arithmetic and Geometric Sequences:#20,#72
  - Section 11-4 Multiplication Principle, Permutations and Combinations: #40, #42.
  - Section 11-6 Binomial Formula: #46, #52
- Chapter 4: Polynomial and Rational Functions
  - Section 4-1 Polynomial Functions and Models: #56, #104.
  - Section 4-2 Real Zeros and Polynomial Inequalities:#48, #74 (use bisection method)
  - Section 4-3 Complex Zeros and Rational Zeros of Polynomials: # 48, #112.
  - Section 4-4 Rational Functions and Inequalities:#56,#68

- Appendix A: Special Topics
  - A2: Partial Fractions: #12, 14.
- Chapter 3: Functions
  - Section 3-5 Operations on Functions: Composition:#54, #82.
  - Section 3-6 Inverse Functions: #80, #90.
- Chapter 5: Exponential and Logarithmic Functions
  - Section 5-1 Exponential Functions: # 118, # 128.
  - Section 5-2 Exponential Models:#6, #17.
  - Section 5-3 Logarithmic Functions: # 88, #112.
  - Section 5-4 Logarithmic Models: # 4, #12.
  - Section 5-5 Exponential and Logarithmic Equations: #62,#87.
- Chapter 10: Systems of Equations and Inequalities; Matrices
  - Section 10-2 Systems of Linear Equations in Three Variables: #14, #28.
  - Section 10-3 Systems of Linear Equations: Gauss-Jordan Elimination:#38, #58.
  - Section 10-4 Matrix Operations: # 58, #70.
  - Section 10-5 Systems of Linear Equations: Matrix Inverse Methods: #48, #62
- Supplement: Matrices and Determinants. This material is available only online:
  - Determinants: # 18, #36.
  - Properties of Determinants: #28, #44.
  - Cramer’s Rule: #24, #26.