

Algebra 3 Semester 1 Final Review

Concepts

Chapter 1: Problems on pg 191-193

1.1:

- Graphing functions #1-4
- Determine x & y intercepts given a graph #6-8

1.2:

- Solve one variable equations #15-22
- Solve rational equations #28-35

1.4:

- Add/Subtract/Multiply/Divide complex numbers #48-54

1.5:

- Solve linear equations by square rooting or basic factoring #58-63

Chapter 2: Problems on Pg 304-308

2.1 & 2.2:

- State whether a set of ordered pairs is a function. State the domain/range. #1-3
- Evaluate functions at given values #7-10
- Use vertical line test to verify functions #11-16
- State intervals of increasing/decreasing #17-19

2.3 & 2.4:

- Find the slope a line given two points #31-34
- Find the equation of a line in slope intercept form given the slope and a point #35-39

2.5:

- Identify transformations of various function types #54-66

2.7:

- Function composition #85-86

Chapter 3: Problems on Pg 406-408

3.1:

- Find the vertex of a quadratic function #1-4

3.2:

- Determine the end behavior of the polynomial #10-13 & #19-24 part a.

3.3:

- Use synthetic division to divide polynomials #30-31

Chapter 4: Problems on pg 475-478

4.2:

- Convert between logarithms and exponential functions #13-18
- Evaluate logs #19-29

4.3:

- Use properties of logs to expand and condense logarithmic expressions #50-57

4.4:

- Solve exponential and logarithmic equations #64-79

Chapter 8 Review Concepts:

8.1 - Systems of Linear Equations in Two Variables

- Solve a system of two equations and two variables using any method

8.2 - Systems of Linear Equations in Three Variables

- Solve a system of three equations and three variables using any method

8.3 - Partial Fractions

- Write the setup for partial fraction decompositions for the following factor types:
 - > Linear factors
 - > Linear repeated factors
 - > Quadratic factors
 - > Quadratic repeated factors

8.4 - Systems of Nonlinear Equations in Two Variables

- Solve systems of equations with the following function types
 - Lines
 - Circles
 - Parabolas

8.5 - Systems of Inequalities

- Solve systems of inequalities with the following function types
 - Lines
 - Circles
 - Parabolas

Chapter 9 Review:

Concepts:

9.3 Day 1 and 2: Matrix Operations

- Perform Matrix Operations (+, -, *)
- Understand Matrix Definitions:
 - > Order
 - > Element Addresses

9.4: Matrix Inverses and Identities

- Determine whether two functions are inverses of each other
- Answer questions regarding the concepts:
 - > Inverses
 - > Identities

9.5: Cramer's Rule

- Use Cramer's Rule to solve systems of 2x2's
- Take the determinant of a 2x2 by hand
- Take the determinant of a 3x3 by calculator