

# **Algebra 1 Final Review**

## **Chapter 1**

Use the order of operations to simplify expressions – PEMDAS

## **Chapter 2**

Evaluate algebraic expressions when you are given the value of each variable  
Solve equations

## **Chapter 3**

Solve proportions  
Solve percent equations

## **Chapter 4**

Solve inequalities  
Solve absolute value equations  
Transform a function graph (shift up, down, left, right, flip)

## **Chapter 5**

Determine if a relation is a function  
Use the vertical line test to determine if a graph represents a function

## **Chapter 6**

Graph a line using its x and y-intercepts or its slope and intercept  
Calculate the slope between two points  
Determine the equation of a line through two points  
Determine the equation of a line through one point and parallel or perpendicular to another line

## **Chapter 7**

Solve a system of equations by substitution or elimination

## **Chapter 8**

Know the properties of exponents (Multiplication, Division, Power, Zero, Negative)  
Be able to simplify expressions that have exponents  
Be able to change a radical expression into an exponential expression

## **Chapter 9**

Know these terms: monomial, binomial, trinomial, polynomial, degree  
Add and subtract polynomials  
Multiply by a monomial  
Multiply binomials (FOIL) or polynomials  
Divide by a monomial or polynomial

## **Chapter 10**

Factor common monomials from a polynomial  
Factor the difference of two perfect squares  
Factor “easy” trinomials”  
Factor “hard” trinomials: Split the middle  
Factor completely

## **Chapter 11**

Change radicals to exponents  
Know the first ten prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29  
Do prime factorization  
Simplify radicals by factoring  
Multiply radicals  
Rationalize radicals in denominators  
Add and subtract radicals  
Multiply binomials that have radicals  
Solve radical equations

## **Chapter 12**

Solve quadratic equations by factoring  
Find the coordinates of the vertex of a parabola  
Solve quadratic equations using the quadratic formula