

## Algebra 1 A

### Successful students will be able to:

- write, graph, and solve systems of linear equations in 2 variables.
- graph systems of linear inequalities
- solve real-world problems by using systems of linear equations
- use the properties of exponents to simplify expressions involving exponents
- add, subtract, multiply and long divide polynomials
- classify polynomials by degree and number of terms
- factor polynomials completely by various methods. (e.g GCF, grouping, etc.)
- select the best method for displaying a particular set of data choosing from bar graphs, histograms, circle graphs, box-and-whisker plots, and line graphs
- calculate the mean, median, mode and range of a set of data, and interpret what these measures represent
- determine whether statistics are being used in misleading ways
- calculate experimental and theoretical probabilities of both independent and dependent events
- determine number of outcomes of an experiment including those involving combinations and permutations

## Algebra 1 B

### Successful students will be able to:

- understand the concept of a function
- determine the domain and range of functions
- understand the connection between various representations of functions (tables, graphs, symbolic representations, etc.)
- solve quadratic equations by various methods including graphing, factoring, square roots, completing the square, and the quadratic formula
- recognize the characteristics of parabolas (axis of symmetry, vertex, etc.) and use these to solve real world problems
- recognize and extend geometric and arithmetic sequences
- write and graph exponential functions of the form  $y = ab^x$
- model real world situations using exponential growth and decay formulas. (e.g. compound interest)
- distinguish between linear, quadratic and exponential data displayed through graph, tables and symbolic representations
- graph and translate square root functions
- add, subtract, multiply, divide, and simplify square root expressions
- solve equations involving square root expressions
- graph and translate functions of the form  $y = \frac{a}{x}$
- add, subtract, multiply, divide, simplify, and find excluded values of rational expressions
- solve equations involving rational expressions and recognize that symbolic methods of solving can lead to extraneous solutions