**Algebra Test Study Notes**

**Test Date –Friday, 5 November 2010**

**Unit 4 Graphing**

* Slope
  + Calculate slope from two point in the coordinate plane 
  + On a graph, find slope from the rise over the run
    - Draw a “slope triangle” and count the slope
  + Calculate slope in a “real world” word problem involving rise and run
    - Slope is the rate of change – usually “per” or “each” in a problem
  + Know that slope is rate of change
* Direct Variation Problems
  + Direct variation equations are of the form *y* = *kx*, where *k*  0.
  + The graph of *y* = *kx* always passes through the origin
  + Be prepared to write the equation given on point from a word type problem
  + Draw a graph from a direct variation equation.
  + Write the equation from a direct variation graph.
* Slope Intercept Form **y = *m*x + b**
  + Convert equations to slope intercept form
  + Write a slope intercept form equation from a word problem
  + Identify the slope of the equation – **m**
  + Identify the y-intercept from the equation – **b**
  + Plot a line on the graph using the slope intercept form
  + Write a slope intercept equation from a given graph
  + Write an equation given the slope and one point on the line
* Point Slope Form 
  + Write an equation of a line given two points on the line
  + Convert equations to point slope form
* Perpendicular and Parallel Lines
  + Parallel lines have the same slope
  + Perpendicular lines have slopes that are negative reciprocals of each other
* Equations
  + Be prepared to convert from any form of an equation
  + Slope intercept form is most useful to find the slope or to create a graph
  + Point slope form is useful to write from given information
* X and Y intercepts
  + The x intercept occurs when the y coordinate is zero
  + The y intercept occurs when the x coordinate is zero
* Horizontal and Vertical Lines
  + Horizontal lines have a slope of zero. Example equation y = 4
  + Vertical lines have an undefined slope. Example equation x = -2

No notes may be used on the test

No formulas will be provided