**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