**Algebra Test Study Notes**

**Test Date –Wednesday, 8 December 2010**

**Unit 5 Inequalities**

Solving Inequalitie

* With Addition and Subtraction

Follow the same rules as for equalities

Keep the inequalities balanced

* With Multiplication and Division

Follow the same rules as for equalities, except when multiplying or dividing by a negative number, turn the inequality sign around

* Multi-Step

Use addition, subtraction, multiplication and division

Undo the original process (reverse PEMDAS)

Keep the inequalities balanced

* Interpret the inequality signs from word problems (list given in class)
* If no answer is possible for the inequality, answer with the empty set symbol ∅

Graphing Inequalities

* Be prepared to graph the result for any of the above solving questions
* With the variable listed first, the number line arrow points the same direction as the inequality sign
* If the inequality includes an “or equal to” the circle on the number line should be filled in

Compound Inequalities – Two inequalities joined by “and” or “or”

* AND compound inequalities are the result of where the inequalities are both shaded

And inequalities may be written on one line, with “and’ omitted

* OR compound inequalities are the result of where either inequality is shaded
* In class notes example of all possible outcomes for AND and OR

Absolute Values

* ReWrite the equation with absolute value brackets as two separate cases, switch the sign for the case that is negative from the given case
* Less than inequalities become AND compound inequalities
* Greater than inequalities become OR compound inequalities
* Follow rules for solving and compound inequalities as written above

Graphing Two Variable Inequalities

* Solve any provided equation to resemble y = mx + b
* Plot the line for the equation, dashed line if < or >, Solid if “or equal to”
* Shade above the line (per the y-axis) if greater than, below if less than

Review Material

* Solving equations with a variable on both sides
* Solving equations including fractions

No notes may be used on the test

No formulas will be provided