**Algebra Quiz Study Notes**

**Quiz Date –Wednesday, 4 May 2011**

**Unit 10 Rationals**

Inverse Variation

* Two variable vary inversely when xy = k, that is the product of the variables is a constant
* Given one point in an inverse variation, the constant can be found
* To find x and y in a second value, set up a proportion

Excluded Values

* When a variable is in a denominator, even if it is cancelled out from the numerator, the denominator may not equal zero
* Any value that allows the denominator to be zero is an excluded value
* Quadratics may need to be factored to find excluded values

Multiplying Rational Expressions

* Multiplication of rational expressions proceeds directly across the numerator and the denominator
* Like products should be cancelled from the numerator and the denominator
* Factoring is usually required to simplify multiplied terms
* Unit conversions utilize the same rules, cancelling like units on top and bottom

Dividing Rational Expressions

* Multiply by the reciprocal to complete division
* A monomial may divide a rational term, rewrite the original monomial with a denominator of one

Rational Expressions with Like Denominators

* Rational terms with like denominators may be combined.
* The numerators are added or subtracted (be careful to distribute a negative sign for subtraction). The denominator is listed once.
* If the denominators differ because all terms are inverses, multiply one of the terms, on top and bottom by negative one, then add the terms.

Review Material – Polynomial Operations

* Multiplying Monomials
* Multiplying Polynomials
  + FOIL
  + Special Products

No CAS Calculators may be used on this quiz