Lesson Plan

Grade 10 Academic Math **Lesson: 4 - 6**

Unit: Quadratic Relations **Topic: Exponent Review**

- ***homework check:*** **Principles of Mathematics 10 p. 175 # 2, 4, 6, 8, 10, 12**

- ***note:*** **Exponent Review**

Recall the five basic exponent rules that you should be familiar with:
***Multiplying Powers* – keep the base and add the exponents**
***Dividing Powers* – keep the base and subtract the exponents**
***Power of a Power* – keep the base and multiply the exponents**
***Zero Exponent* – anything raised to the zero exponent is equal to one**
***Negative Exponent* – write the reciprocal of the base (position change) to simplify**

For example, simplify each of the following. Be sure to note which rule you must use to accomplish this task.

$4^2 \times 4^3 =$
$= 4^{2+3}$
$= 4^5$
$= 1024$

$a^4 \times a^7 =$
$= a^{4+7}$
$= a^{11}$

$(-2x^3)(3x^5) =$
$= (-2)(3)x^{3+5}$
$= -6x^8$

$\frac{4^8}{4^5} =$
$= 4^{8-5}$
$= 4^3$
$= 64$

$\frac{a^{12}}{a^5} =$
$= a^{12-5}$
$= a^7$

$\frac{88x^4}{-11x^2} =$
$= \frac{88}{-11}x^{4-2}$
$= -8x^2$

$(3^2)^3 =$
$= 3^{2(3)}$
$= 3^6$
$= 729$

$(a^5)^3 =$
$= a^{5(3)}$
$= a^{15}$

$(3x^2)^4 =$
$= 3^4 x^{2(4)}$
$= 81x^8$

$3^0 =$
$= 1$

$a^0 =$
$= 1$

$\left(2x^3\right)^0 =$
$= 1$

$3^{-2} =$
$= \left(\frac{1}{3}\right)^2$
$= \frac{1}{9}$

$\left(x^2\right)^{-4} =$
$= x^{-8}$
$= \left(\frac{1}{x}\right)^8$
$= \frac{1}{x^8}$

$\frac{x^4}{x^7} =$
$= x^{-3}$
$= \frac{1}{x^3}$

- ***homework assignment:*** **<u>FM 10</u> p. 41 # 5 – 8, p. 43 # 4 – 6**