Name: _____ Date: _____

Math 9A Journal Entries

Learning Guide 6

Expectation 1: Model, record and explain the operations of multiplication and division of polynomials.
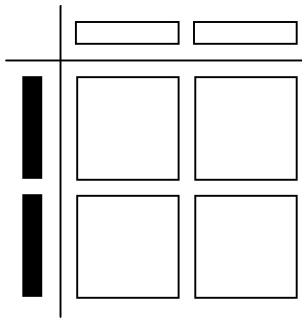
Part A) Multiplying Monomials:

You can represent the multiplication of monomials using a model.   For example, the following model shows (2x)(-2x).
To get the answer using your model, count how many negative x^2 tiles you have.
There are _____ negative x^2 tiles in the model below.
$(2x)(-2x) =$ _____x^2

To multiply monomials algebraically, you can multiply the numerical coefficients, and use the exponent rules to multiply the variables.

Please note: Remember your integer rules for Multiplying ;

When multiplying two integers with the same sign, the answer is _____.

Example-   (-2)(-3) = +6

When multiplying two integers with different signs, the answer is _____.

Example-   (-7)(4) = -28

Complete the following multiplication questions:

1.   (5x)(6x) =

2.   (-3y)(4y) =

3.   (-w)(-8w) =

Part B) Dividing Monomials:

Read the Key Ideas section on page 259 and then complete the following:

You can represent the division of monomials using a model. For example, to build a model which shows $-6x^2 \div 3x$, arrange the 6 negative x^2-tiles into a rectangle so that one of the sides is 3 x-tiles long. (see the diagram below)
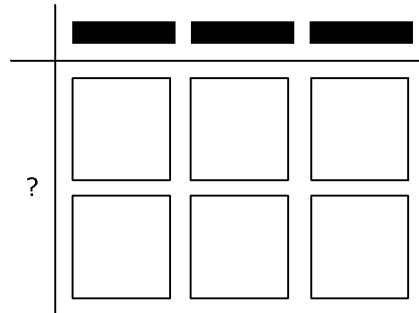
Now, to find the answer using the model, we have to determine the expression for the unknown side length (ie. The ? in the diagram above). The unknown side length of the rectangle is made up of 2 negative x-tiles.

So, the answer to the question $\dfrac{-6x^2}{3x} = -2x$

To divide monomials algebraically, you can divide the numerical coefficients, and use the exponent rules to divide the variables (ie; subtract exponents).

Divide the following using the algebraic method above:

a) $\dfrac{4.5p^2}{5p} =$

b) $-0.8xy \div 0.2x =$

Part C) Distributive Property:

Read the Literacy Link on page 267 and use it to help you describe the distributive property:

_____
_____
_____.

Use the last part of the Key Ideas on page 268 to help you complete the following questions using the distributive property. Draw the solution using algebra tiles as well.

a) $(-2x)(3x – 3)$ b) $(-4y + 5)(2y)$