

**DECEMBER 8, 2015**

**UNIT 4: POLYNOMIALS**

**SECTION 5.1:  
MODELLING  
POLYNOMIALS**

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***MATH 9***



## **WHAT'S THE POINT OF TODAY'S LESSON?**

**We will begin working on the Math 9 Specific Curriculum Outcome (SCO) "Patterns and Relations 5" OR PR5 which states:**

**PR5: "Demonstrate an understanding of polynomials (limited to polynomials of degree less than or equal to 2)."**



## What does **THAT** mean???

Polynomials, or "pre-algebra", prepare us for solving equations ("algebra").

SCO PR5 means that we will learn about the different parts of polynomials which are a combination of numbers, variables (letters) and mathematical operations (+ / - / x). We will use "algebra tiles" (little plastic rectangles and squares) to help us understand polynomials.



**HOMEWORK QUESTIONS???**  
**(page 214, #4 TO #7 and #9)**



**1**

**x**

**x<sup>2</sup>**

**-1**

**-x**

**-x<sup>2</sup>**

We often use the variable "x" in math, but algebra tiles can be used to represent ANY variable:

ex:  $a^2 + 3a - 4$





Which of these polynomials can be represented by the same algebra tiles?

a)  $3x^2 - 5x + 6$

b)  $-5 + 6r + 3r^2$

c)  $-5m + 6 + 3m^2$

a)  $3x^2 - 5x + 6$

Use three  $x^2$ -tiles, five  $-x$ -tiles,  
and six 1-tiles.



b)  $-5 + 6r + 3r^2$

Use five  $-1$ -tiles, six  $r$ -tiles,  
and three  $r^2$ -tiles.



c)  $-5m + 6 + 3m^2$

Use five  $-m$ -tiles, six 1-tiles,  
and three  $m^2$ -tiles.



In parts a and c, the same algebra tiles are used.

Two polynomials are **EQUIVALENT** if they can be represented by identical algebra tiles; therefore,  $3x^2 - 5x + 6$  and  $-5m + 6 + 3m^2$  are equivalent polynomials.

a) Which polynomial does each group of algebra tiles represent?

**Model A**



$$2x^2 - 8x + 2$$

**Model B**



$$-8x + 2x^2 + 2$$

**Model C**



$$-4x + 6$$

b) Which of the polynomials in part a are equivalent? How do you know?

Both models A and B contain the same tiles.

So,  $2x^2 - 8x + 2$  and  $-8x + 2x^2 + 2$  are equivalent polynomials.

## **CONCEPT REINFORCEMENT:**

### ***MMS 9:***

**Page 214: #8, #11 and #12**

**Page 215: #13, #15 and #16**

**Page 216: #18**

**Also, be sure to study for tomorrow's  
polynomial vocabulary quiz!!!  
(7 definitions)**