

JANUARY 6, 2016

UNIT 4: POLYNOMIALS

**SECTION 5.5:
MULTIPLYING AND
DIVIDING A
POLYNOMIAL BY A
CONSTANT**

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MATH 9



WHAT'S THE POINT OF TODAY'S LESSON?

We will continue working on the Math 9 Specific Curriculum Outcome (SCO) "Patterns and Relations 7" OR PR7 which states:

PR7: "Model, record and explain the operations of multiplication and division of polynomial expressions (limited to polynomials of degree less than or equal to 2) by monomials concretely, pictorially and symbolically."



What does THAT mean???

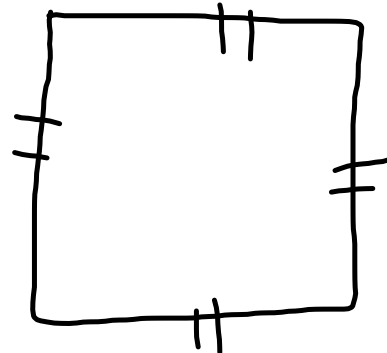
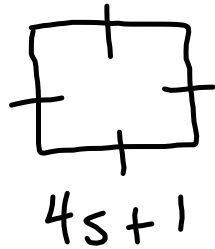
SCO PR7 means that we will multiply and divide polynomials with one or more terms by monomials (expressions containing only one term). We will do this with pictures (algebra tiles) and without. The largest exponent allowed is 2.



HOMEWORK QUESTIONS???

(pgs 246/247/248, #7ab, 12, 15, 21 & 22)

21.



$$3(4s+1) \\ = 12s+3$$

$$\text{a) } P = 4(4s+1) \\ = 16s+4$$

$$P = 3(16s+4) \\ = 48s+12$$

OR

$$P = 4(12s+3) \\ = 48s+12$$

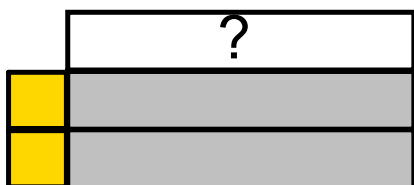
$$\text{b) } (48s+12) - (16s+4) \\ = (48s+12) + (-16s-4) \\ = 32s+8$$

HOMEWORK QUESTIONS???
(pgs 246/247/248, #7ab, 12, 15, 21 & 22)

HOMEWORK QUESTIONS???
(pgs 246/247/248, #7ab, 12, 15, 21 & 22)

DIVIDING USING ALGEBRA TILES:**EX 1: $2x/2$**

$$\frac{2x}{2}$$



$$\text{So... } \frac{2x}{2} = x$$

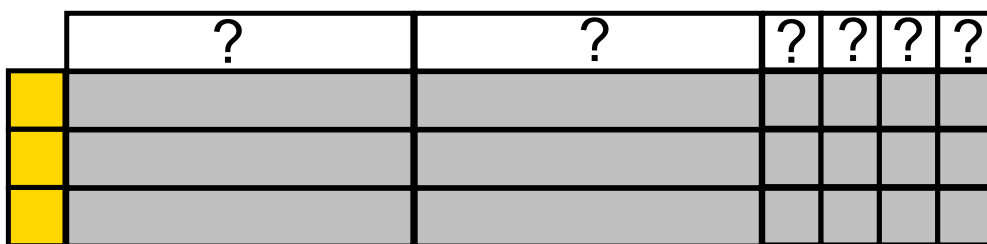
DIVIDING USING ALGEBRA TILES:**EX 2: $12x/4$**

	?	?	?
■			
■			
■			
■			

$$\begin{array}{l} \text{So...} \\ = \end{array} \quad \frac{12x}{4} = 3x$$

DIVIDING USING ALGEBRA TILES:

EX 3: $(6m + 12)/3$



So... $(6m + 12)/3 = 2m + 4$

$$\frac{6m + 12}{3}$$

$(6m + 12) \div 3$


TO DIVIDE A POLYNOMIAL BY A CONSTANT:

Divide the coefficients and/or constants in the dividend (the polynomial that is being divided) by the constant in the divisor (what you are dividing by).

["Distribute" the constant to all of the actual numbers in the polynomial.]

$$\begin{array}{r} \text{EX: } \quad \cancel{2}x \\ \quad \quad \cancel{2} \\ \hline = x \end{array}$$

$$\begin{array}{r} \text{EX: } \quad \frac{12x}{4} \\ = 3x \end{array}$$

$$\begin{array}{r} \text{EX: } \quad \frac{6m + 12}{3} \\ = \frac{6m}{3} + \frac{12}{3} * \\ = 2m + 4 \end{array}$$


$$\begin{array}{r} \text{EX: } \quad \frac{-10y + 35}{5} \\ = \frac{-10y}{5} + \frac{35}{5} \\ = -2y + 7 \end{array}$$

$$\begin{array}{r} \text{EX: } \quad \frac{-8p^2 + 2p - 12}{-2} \\ = 4p^2 - p + 6 \end{array}$$

$$\begin{array}{r} \text{EX: } \quad (6y^2 - 36y) \div (-3) \\ = -2y^2 + 12y \end{array}$$

CONCEPT REINFORCEMENT:

MMS9

Page 246: #8ab

Page 247: #14 and #16

Page 248: #18a, #20 and #23

OPTIONAL BONUS ASSIGNMENT:

(due at the beginning of class on Thursday
on a separate sheet of loose-leaf)

Page 248: #24 ; $\pi = \text{num. coeff.}$