



Warm Up Grade 9



7a, 8a
9ab
11-16

Determine the product or the quotient.

$$\text{a) } (7r)(11) = 77r$$

$$\begin{aligned} \text{b) } (6m^3 + 2m - 5)(-7) \\ = -42m^3 - 14m + 35 \end{aligned}$$

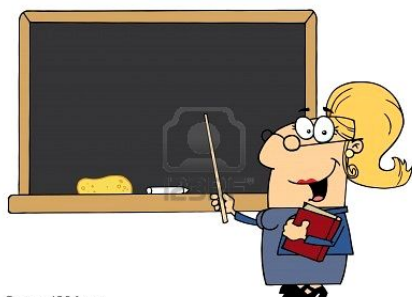
$$\begin{aligned} \text{c) } \frac{-81td - 72t + 90r}{-9} &= -\frac{81td}{-9} - \frac{72t}{-9} + \frac{90r}{-9} \\ &= 9td + 8t - 10r \end{aligned}$$



Check your homework
from the back of the textbook

7a, 8a
9ab
11-16

Are there any questions that you
would like me to complete on the
board?



Name _____

Quiz

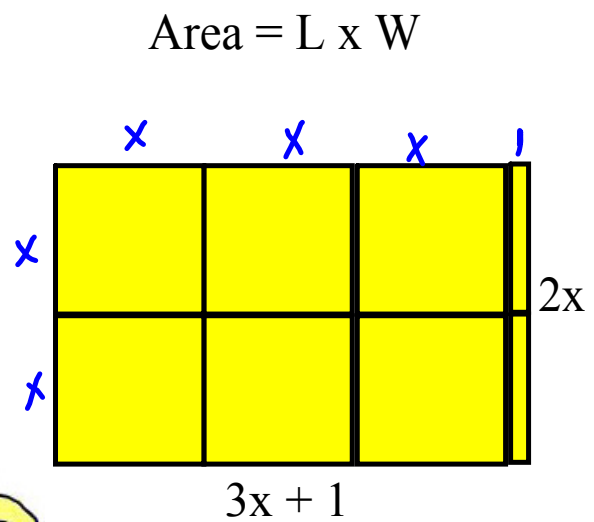
Dec 3, 2014

$$1. \quad (x^2 + x)(-5) = x^2(-5) + x(-5) \\ = -5x^2 - 5x$$

$$2. \quad \frac{8x + 4}{4} = \frac{8x}{4} + \frac{4}{4} \\ = 2x + 1$$

section 5.6
***Multiplying and Dividing a
Polynomial by a Monomial***

$(3x + 1)(2x)$
Is this possible?



SOME REVIEW

Laws of Exponents

Remember... $b^x \rightarrow$ "b raised to the power of x" where, b – base
 x – exponent

#1. PRODUCT - when multiplying...

"if the base is the same, then ADD the exponents."

$$a^m \cdot a^n = a^{m+n}$$

$$b^m \times b^n = b^{m+n}$$

#2. QUOTIENT - when dividing...

"if the base is the same, then SUBTRACT the exponents."

$$\frac{a^m}{a^n} = a^{m-n}$$

$$\frac{b^m}{b^n} = b^{m-n}, b \neq 0$$

Multiplying a Monomial by a Monomial

Note:

Multiply coefficients with coefficients and variables with variables

Follow exponent laws for variables with the same base

$$(11)(5y^2) \\ = 55y^2$$

$$(-7n)(5n) \\ = -35n^2$$

$$(8m^5)(4m^2x) \\ = 32 m^7x$$

$6y^2 \cdot 7y^3$

$= 42y^5$ SMILE

Hint: Coefficient and variables by their own kind

Just say your answer (Time is up)

Mrs. Johnson

Multiplying a Binomial by a Monomial

$$(6x + 3)(5y)$$

$$= (6x + 3)(5y)$$

$$= 6x(5y) + 3(5y)$$

$$= 30xy + 15y$$

Each term inside the bracket must be multiplied by the monomial outside the brackets.

Still coefficients with coefficients and variables with variables.

You Try!

$$1) 12r(3r + 6)$$

$$= 12r(3r) + 12r(6)$$

$$= 36r^2 + 72r$$

$$2) -5(4b - 11)$$

$$= -5b(4b) - 5(-11)$$

$$= -20b + 55$$

$$3) 6k^2(8fk^3 - 7k^5)$$

$$= 6k^2(8fk^3) + 6k^2(-7k^5)$$

$$= 48k^5f - 42k^7$$

Dividing a Monomial by a Monomial

Note:

Divide coefficients with
coefficients and variables
with variables

Follow exponent laws for variables with the same base

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

$$2) \frac{150y}{25} = 6y$$

$$\frac{16x^2y^5}{8x^2y^2} = 2(1)(y^3)$$
$$= 2y^3$$

Dividing a Binomial by a Monomial

$$\frac{24p^2 - 14p}{2p}$$

Each term on the numerator must be divided by the monomial on the denominator.

$$\frac{24p^2}{2p} - \frac{14p}{2p}$$

$$12p - 7$$

$$\frac{24p^2}{2p} \quad \text{and} \quad \frac{-14p}{2p}$$

Recall:
coefficients with
variables with
variables.

You Try!

$$1) \quad \frac{72x - 48x^2}{12x}$$

Homework / Class work

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4, 6, 7, 9a
10a, 11