Warm Up
Grade 9

Determine the product or the quotient.

a) $(7r)(11)$

b) $(6m^3 + 2m - 5)(-7)$

c) $\dfrac{-81td - 72t + 90r}{-9}$

Check you homework
from the back of the textbook

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

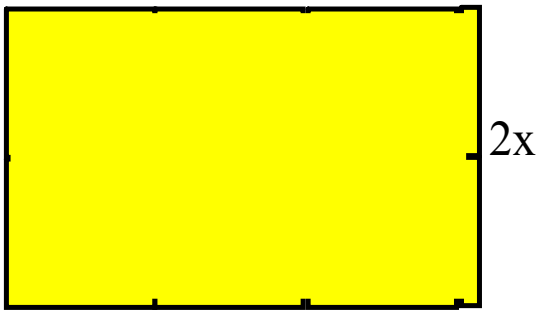
Section 5.6

Multiplying and Dividing a Polynomial by a Monomial

(3x + 1) (2x)

Is this possible?

Area = L x W



SOME REVIEW

Laws of Exponents

Remember... b^x → **"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."

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

$4^9 \times 4^{11} = 4^{20}$

#2. QUOTIENT - when dividing...
"if the base is the same, then SUBTRACT the exponents."

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

$$\frac{4^{15}}{4^3} = 4^{12}$$

Multiplying a Monomial by a Monomial

Note:
Multipy coefficients with
coefficients and vaiables
with variables

Follow exponent laws for varialbe with the same base

$(11)(5y^2)$

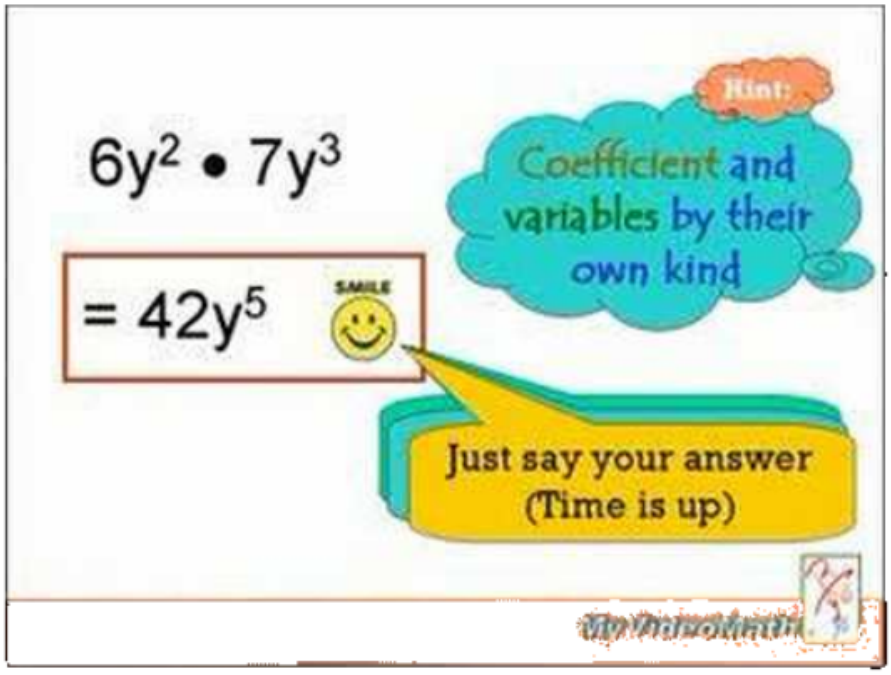
$= 55y^2$

$(-7n^1)(5n^1)$

$= -35n^2$

$(8m^5)(4m^2x)$

$= 32m^7x$



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 vaiables with variables.

You Try!

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

$=$

$=$

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

$=$

$=$

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

$=$

$=$

Dividing a Monomial by a Monomial

Note:

Divide coefficients with coefficients and vaiables with variables

Follow exponent laws for varialbe with the same base

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

$-4x^1$

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

$6y$

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.

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

Recall: coeffiecents with coefficents and variables with variables.

$\frac{24p^2}{2p} - \frac{14p^1}{2p^1}$

$12p^1 - 7$

=

You Try!

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

Pg. 256 ∴

11 a, c, e, g

12 a, c, e, f, g

16 a, c, e, g

19 ∴