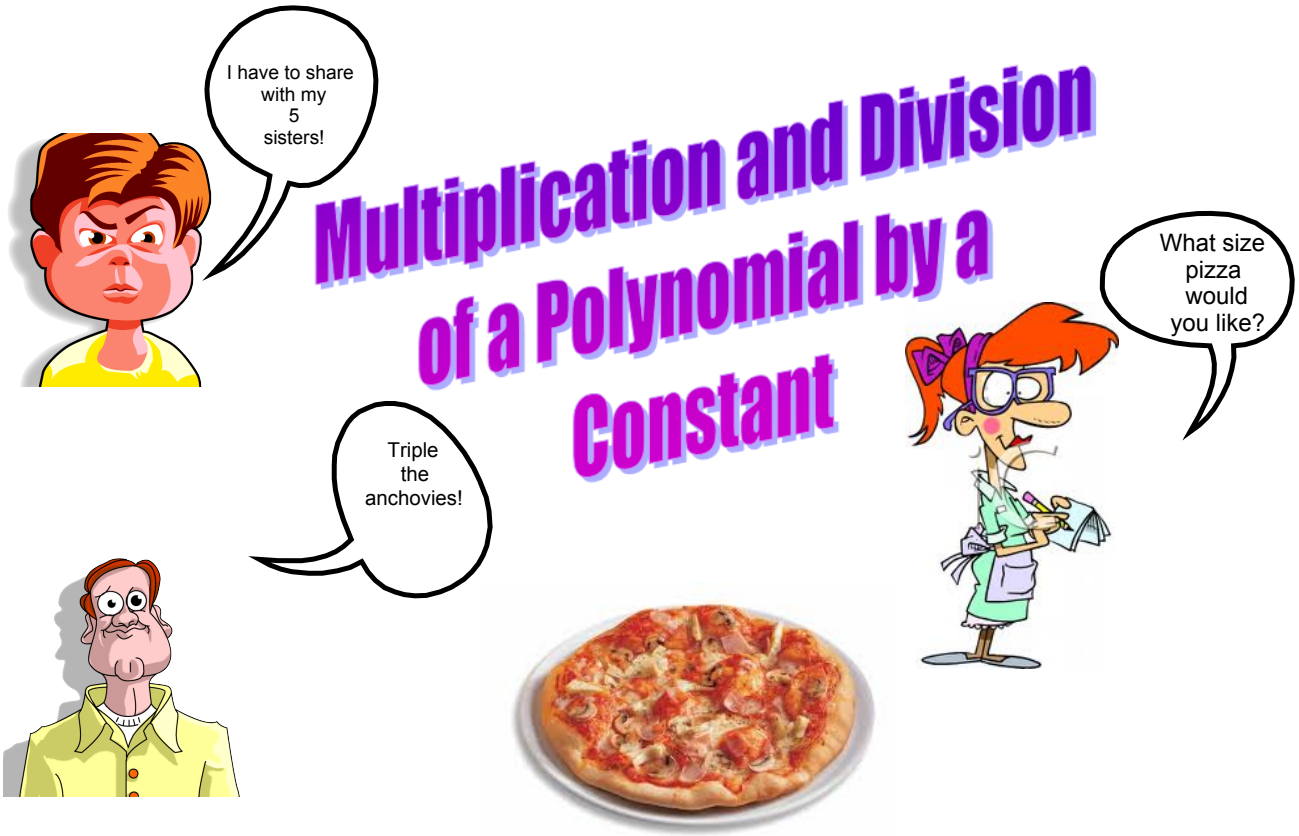

I have to share with my 5 sisters!
Multiplication and Division of a Polynomial by a Constant
What size pizza would you like?
Triple the anchovies!

Things you already know!!

4 x 5 =

(4)(5)=

4(5)=

Things you need to know :)

Why didn't I use this example??

(4)(m)= 4m

6(z)=6z

(-2) (-r)= 2r

4(-3v)=-12v

#1) $4(6w)$

$24w$

(monomial)(monomial)

#2) $4(6w - 11)$

(monomial)(binomial)

$24w - 44$

#3) $4(6w^2 - 7p + 11)$

(monomial)(trinomial)

$24w^2 - 28p + 44$

Things you already know!!

$30 \div 3 =$

$\frac{30}{3} =$

Things you need to know :)

$60z \div 15 =$

$4z$

$\frac{48m}{4} =$

$12m$

$$\frac{100r^2 + 50m}{5}$$

$= \frac{100r^2}{5} + \frac{50m}{5}$ Now Divide each term

$20r^2 + 10m$

$$(100r^2 + 50m - 65z) \div (-5)$$

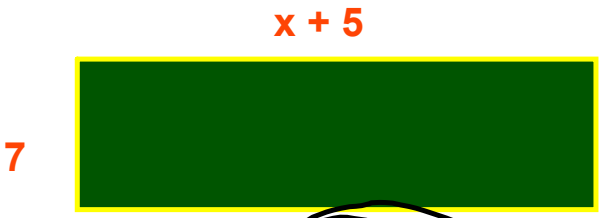
$$\frac{100r^2}{-5} + \frac{50m}{-5} - \frac{65z}{-5}$$

$$-20r^2 - 10m + 13z$$

A = length x width

A = (l)(w)

Write the multiplication statement for the ***area*** of each rectangle.

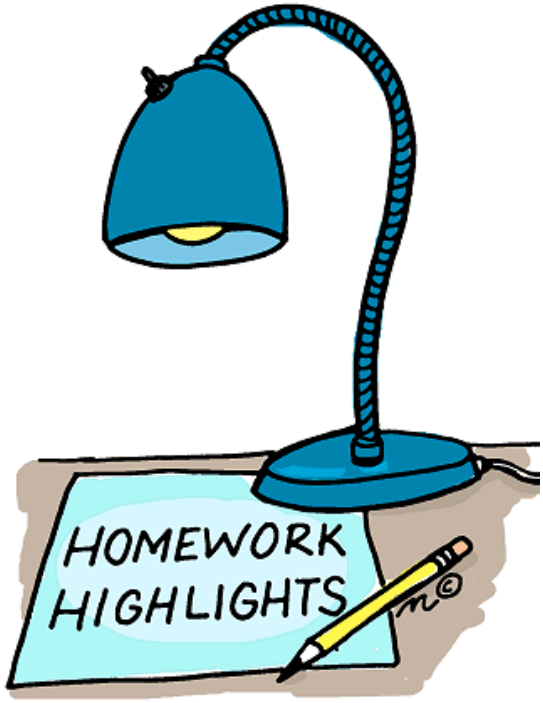


A = (l)(w)

7(x+5)

A = 7x + 35

Class/ Homework



Mid-Unit Review
Page 237

#1
#2
#3
#4(a,c)
#6
#9 b,d, g(just simplify)
#10 bd (no tiles)
#11
#12a

Try these:

3(2x - 6y + 2z)

6x - 18y + 6z

$\frac{36p + 45q - 81}{9}$

4p + 5q - 9

(30m - 15a + 9t - 54h) ÷ (-3)

-10m + 5a - 3t + 18h

-4(6z - 9)

-24z + 36

$(11y^2 - 8y + 10)(5)$

55y² - 40y + 50

$(49t^2 - 7) \div (7)$

7t² - 1

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."

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

example:

$2^5 \times 2^6 = 2^{11}$

$(x^7)(x^3) = x^{10}$

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

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

example:

$\frac{2^7}{2^4} = 2^{(7-4)} = 2^3$

$\frac{x^8}{x^6} = x^{(8-6)} = x^2$

Multiplying a Monomial by a Monomial

Note:

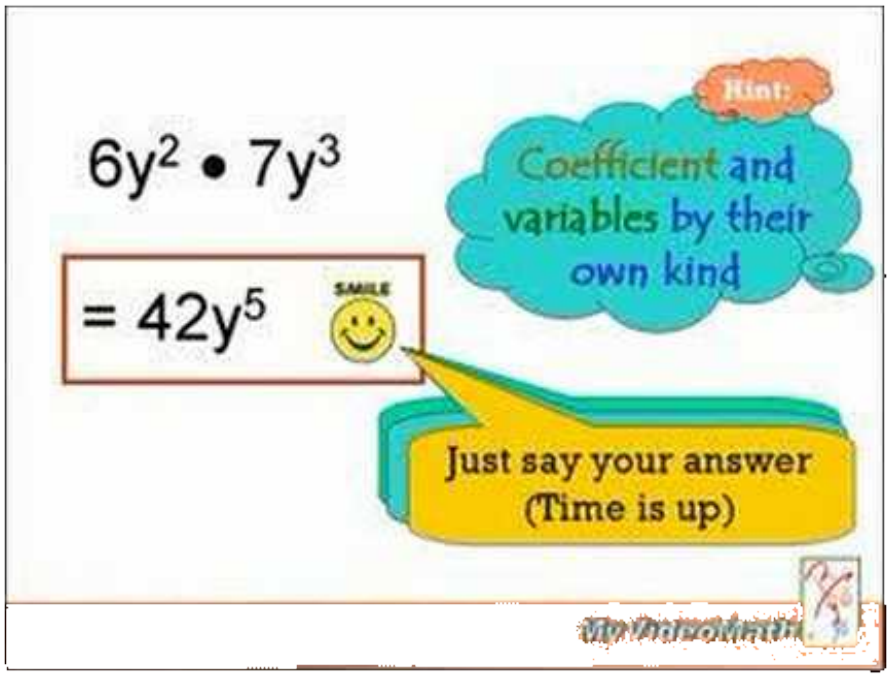
Multiply coefficients with coefficients and variables with variables

Follow exponent laws for variable with the same base

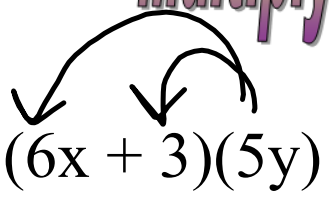
$(11)(5y^2)$ $55y^2$

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

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



Multiplying a Binomial by a Monomial



$15y + 30xy$

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

Still coefficients with coefficients and variables with variables.

You Try!

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

$48fk^5 - 42k^7$

Dividing a Monomial by a Monomial

Note:
Divide coefficients with coefficients and
variables with variables

Follow exponent laws for variable with the same base

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

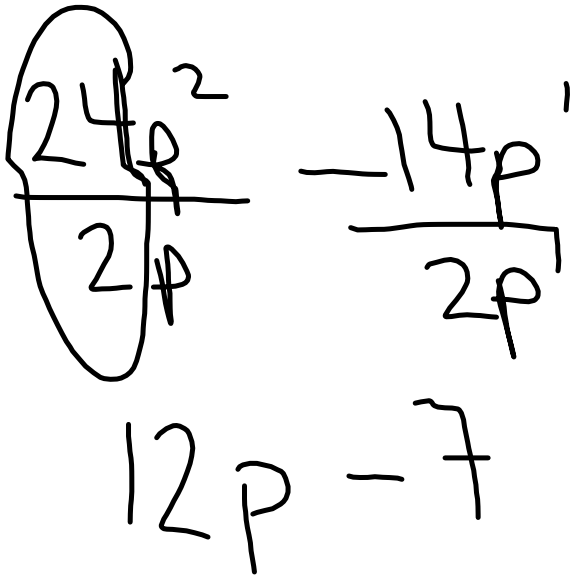
$-4x$

2) $\frac{150y^5}{25y^2}$

$6y^3$

Dividing a Binomial by a Monomial

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



$12p - 7$

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

Recall:
coefficients with coefficients and variables with variables.

You Try!

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

$6 - 4x$

$$(2xy + 3x)(4xy)$$

$$8x^2y^2 + 12x^2y$$