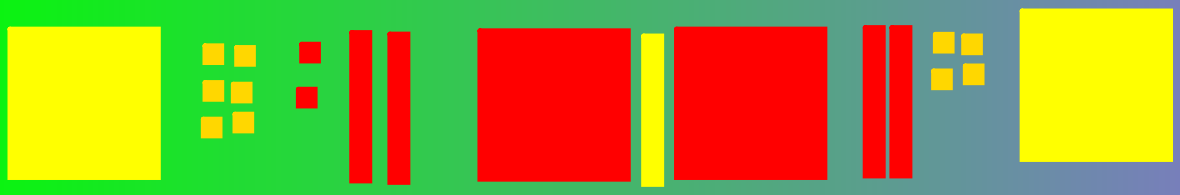
Warm Up

Write the simplified polynomial for the following algebra tiles.

1)



2) Simplify (show all work_ three steps)

a) $(12t^2 + 5t - 6) + (-4t^2 - 8t + 11)$

b) $(-9n^2 - 5nx + 13n) - (2n^2 - 5nx + 6n)$

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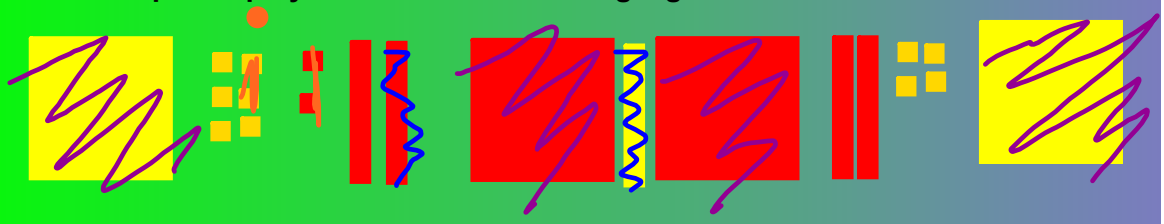


$-3x + 8$

2) Simplify (show all work_ three steps)

a) $(12t^2 + 5t - 6) + (-4t^2 - 8t + 11)$

$12t^2+5t-6 \quad -4t^2-8t+11$

$12t^2 - 4t^2 + 5t - 8t - 6 + 11$

$8t^2 - 3t + 5$

b)

$(-9n^2 - 5nx + 13n) - (2n^2 - 5nx + 6n)$

$-9n^2 - 5nx + 13n \quad -2n^2 + 5nx - 6n$

$-9n^2 - 2n^2 - 5nx + 5nx + 13n - 6n$

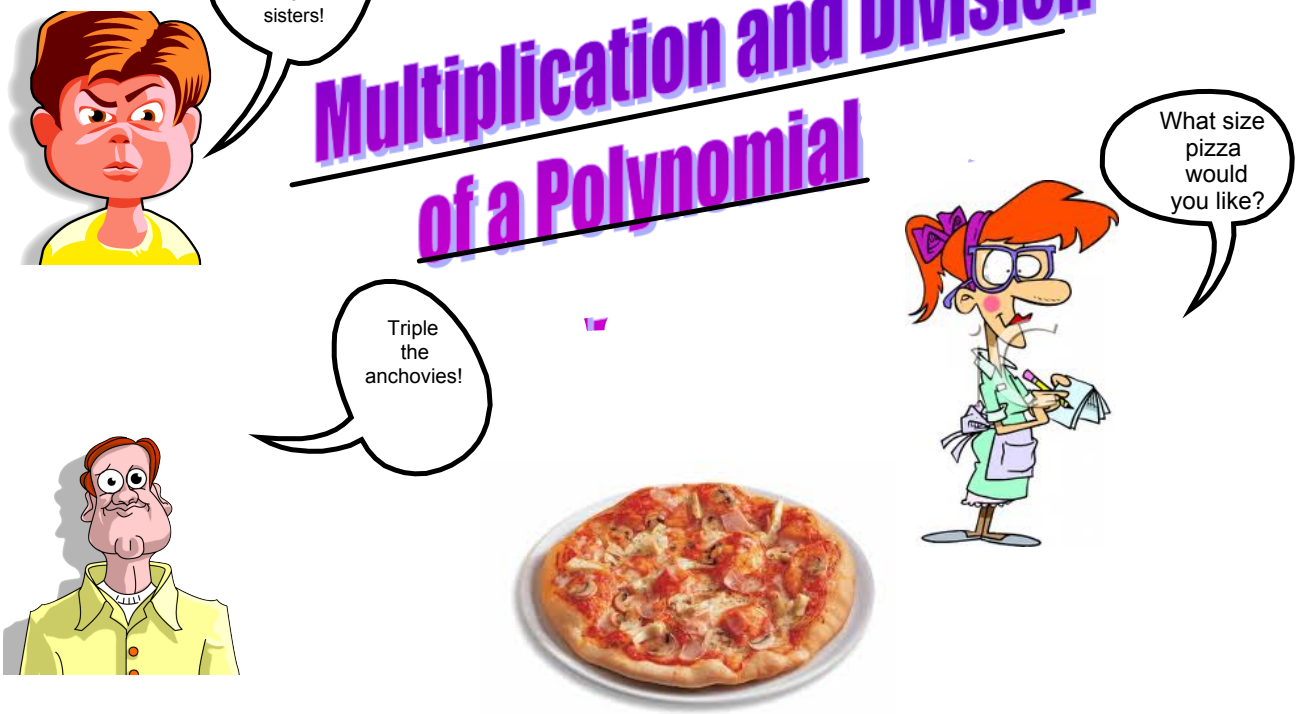
$\boxed{-11n^2 + 7n}$

Warm Up

3)

	$3ab^4 - 6$	$2r^8 - 3p + 7$	$-13xyz$	$\frac{5}{2x}$	2
# of terms					
Coefficients					
Constant					
Variable					
Degree					

Multiplication and Division of a Polynomial



Things you already know!!

$4 \times 5 = 20$

$(4)(5) = 20$

$4(5) = 20$

Things you need to know :)

$(4)(m) = 4m$

$6(z) = 6z$

$(-2)(-r) = 2r$

$4(-3v) = -12v$

#1) $4(6w) = 24w$

Hint:
Multiply each term in the brackets by the term on the outside of the brackets.

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

$24w - 44$

$4(6w - 11)$

$4(6w) \quad 4(-11)$

$24w - 44$

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

$24w^2 - 28p + 44$

Things you already know!!

$30 \div 3 =$ 10

$\frac{30}{3} =$ 10

Things you need to know :)

$60z \div 15 =$ 4z

$\frac{60z}{15}$

$\frac{48m}{4} =$ 12m

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

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

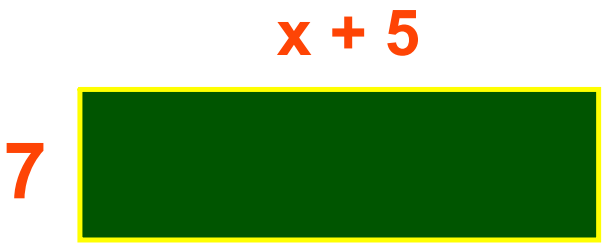
$$20r^2 + 10m$$

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

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

A = length x width

A = (l)(w)



A = (l)(w)

$A = 7(x+5)$

$= 7x + 35$

$(x+5)(7)$

$7x + 35$

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

$$\frac{2^7}{2^4} = 2^3$$

$$\frac{x^8}{x^6} = x^2$$

Multiplying a Monomial by a Monomial

Note:

Multiply coefficients with coefficients and variables with variables

Follow exponent laws for variable with the same base

$(11)(5y^2)$

$= 55y^2$

$(-7n)(5n)$

$= -35n^2$

$(8m^3)(4m^2x)$

$= 32m^5x$

Multiplying a Binomial by a Monomial

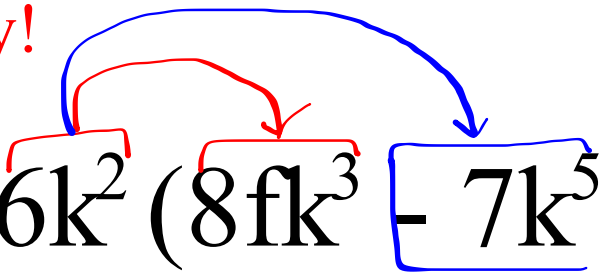
$$(6x + 3)(5y)$$

$30xy + 15y$

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

Still coefficients with coefficients and variables with variables.

You Try!



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

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

or

$48fk^5 - 42k^7$

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

$= -4x^1$

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

$= 6y^3$

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.

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

$$= \boxed{12p - 7}$$

You Try!

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

$\dfrac{72x}{12x} \quad \dfrac{-48x^2}{12x}$

$6 - 4x$

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

Try these:

$3(2x - 6y + 2z)$

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

$(30m - 15a + 9t - 54h) \div (-3)$

$-4z^2(6z - 9)$

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

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

Stop

Friday Lesson

Warm Up
Grade 9

Determine the product or the quotient.

a) $(9r^3xy)(4r^2y - 2x)$

b) $(-7m^4n^2 + 2mn - 10n^2)(-3mn)$

c) $\dfrac{80t^5 + 14t^4 - 18t}{-2t}$

d) $(3x^2 - 12x + 7) - (5x^2 - 12x - 8)$

e) $(-12x^2 + 6x - 5) + (4x^2 - 8x - 1)$

Class/Homework

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No Algebra Tiles

Copy the original out

9,
11acf
12,
13ace
14
15acf
16adg
18
22bcd
23a,b

page
255-257

11,12,13,14

#16(acfh), #19,
#21(cd), #25, #22(try)

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255-257

11,12,13,14

#16(acfh), #19, #21(cd), #25, #22(try)