GCF=_____ _____ _____

Rewrite each expression using the GCF:

a. $3x^2 + 12x - 27$

b. $4y^3 - 10y^2$

c. $12xy^3 + 15x^3y^2$

d. $5m^2 - 10m$

Generic Rectangle

a. Fill in the missing dimensions.

4x	10
$2x^2$	5x

b. Write area as a sum and a product

c. What do the diagonals have in common?

Polynomials

Write an example of a:

monomial

binomial

trinomial

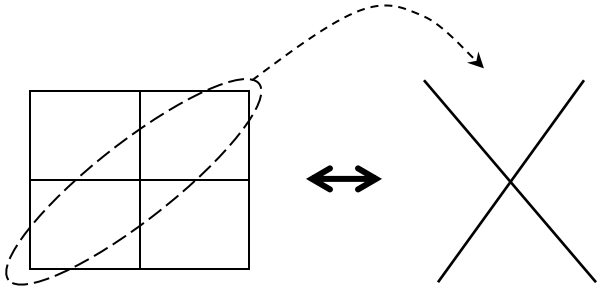
Quadratic Expressions

a. Definition of a quadratic:

b. Examples:

quadratic written as a sum	=	*(factored form)* quadratic written as a product
$x^2 + 5x + 6$	=	
$2x^2 + 8$	=	

Factoring Quadratic Expressions with a Generic Rectangle and Diamond Problem



Given: Factor $2x^2 - 7x + 6$

Therefore…$2x^2 - 7x + 6 = (\quad)(\quad)$

Factoring Special Cases:

Difference of Squares

("difference" refers to the mathematical operation of _____)

a. $x^2 - 4 = (\quad + \quad)(\quad - \quad)$

b. $9x^2 - 4 = (\quad)(\quad)$

c. $x^2 - y^2 = (\quad)(\quad)$

Greatest Common Factor (GCF)

d. $x^2 - 4x =$ ___(–)

e. $8x^2 + 12x =$ ___ ( )

f. $10x - 40 =$ ___( )

Factoring Completely:

a. $9x^2 + 15x + 6 =$ ____ ( )
= ____ (+)(+)

b. $2x^2 - 12x + 18 =$ ____ ( )
= ____ (–)(–) OR ____( )^2

c. $25x^3 + 15x^2 - 10x =$

Factoring Quadratics by applying the FOIL Method

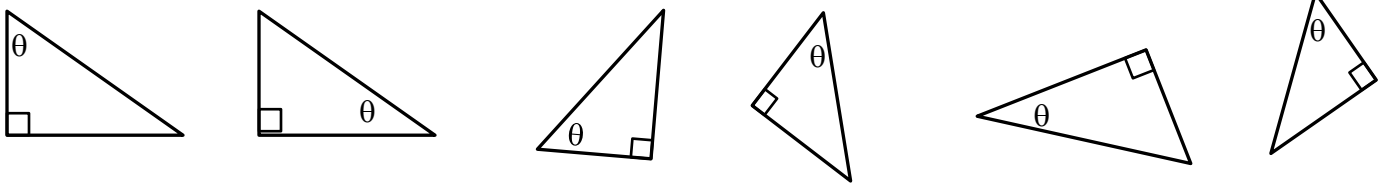
F =
O =
I =
L =

Examples: a. $3x^2 + 5x - 2 =$ ( )( )

b. $x^2 - 12x + 36 =$ ( )( ) OR ( )^2

c. $5x^2 + 12x + 4 =$ ( )( )

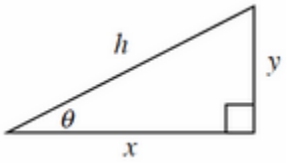
Identifying the Hypotenuse and Opposite/Adjacent Legs of a Right Triangle



Trig Ratios: Sine, Cosine, and Tangent (given an angle, find a missing side)

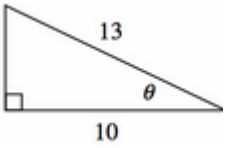
$\sin\theta =$ ——— = —— $\tan\theta =$ ——— = ——

$\cos\theta =$ ——— = ——



Soh Cah Toa

Inverse Trigonometry: Use $\sin^{-1}$, $\cos^{-1}$, $\tan^{-1}$ to "undo" the three trig functions. (given side ratio, find missing angle)



$\cos\theta =$ ——

$\theta = \cos^{-1}\left(\text{——}\right)$

Note: Be sure calculator mode is set to degrees!

$\theta \approx$