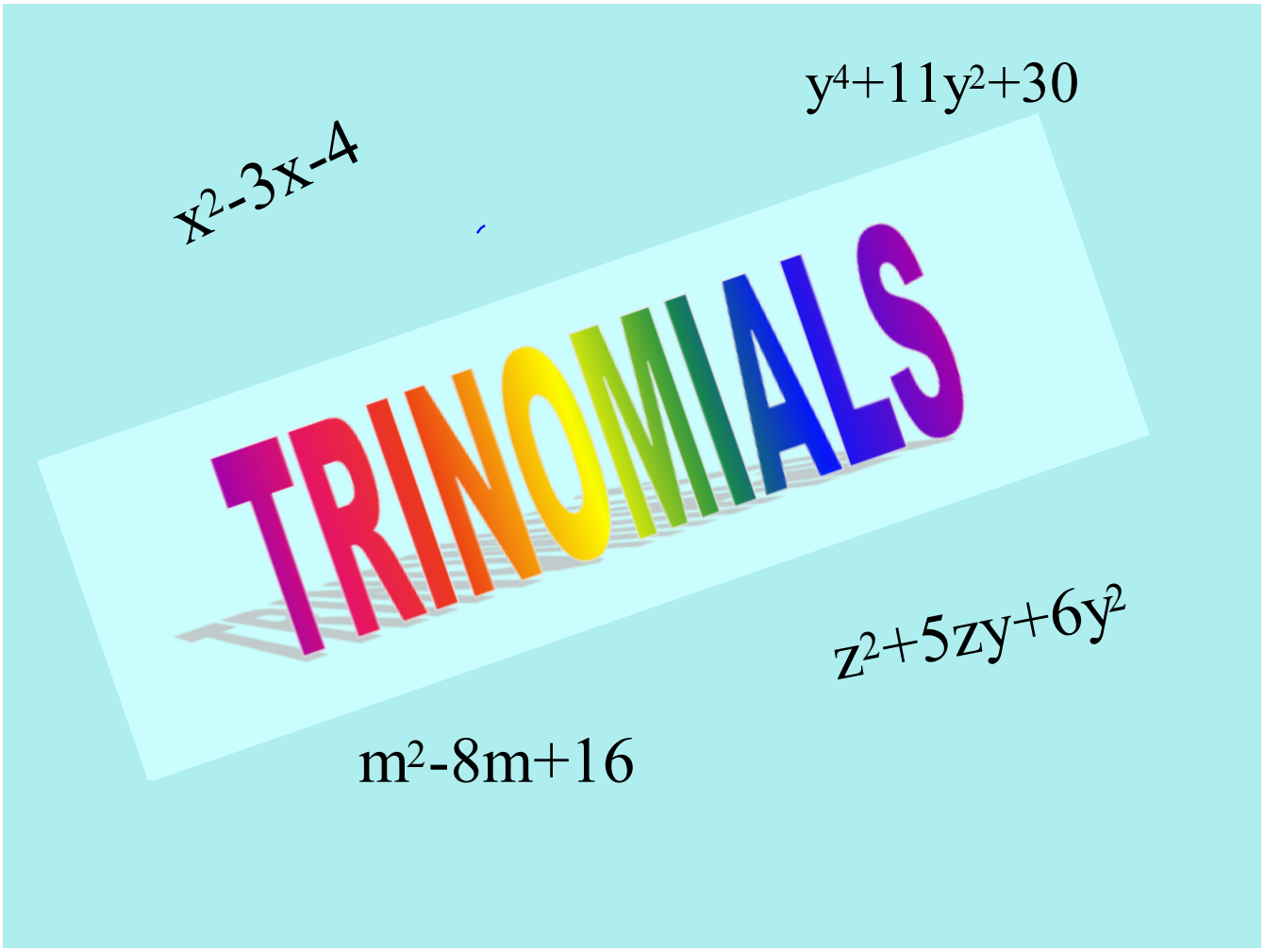

x^2-3x-4
y^4+11y^2+30
TRINOMIALS
$z^2+5zy+6y^2$
$m^2-8m+16$

Simple Trinomials

- has three terms with the form...

$$ax^2 + bx + c$$

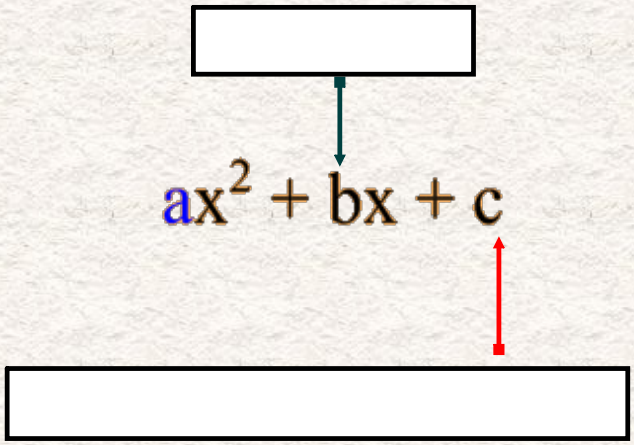
- a simple trinomial has an "a" value of 1.

- we use a method of inspection to factor them.

CHECK IT OUT!!!

INSPECTION METHOD

- here's how it goes... "What two numbers?"



EXAMPLES...

SOLUTIONS

multiply add

1) $x^2 + 13x - 48$

2) $x^2 - 10x - 24$

3) $2x^2 - 20x + 42$

Work

1. x^2+1x-6

Find two numbers that

multiply to give ___.

add: to give __

Don't need yet but this is decomposition

How does this compare to the factoring of four term polynomials?????

Find two numbers that

multiply
to give ___

add:
to give ___

___ , ___

$x^2 + 1x - 6$

break down middle term using those factors

$x^2 - 2x + 3x - 6$

Pull out the GCF out of first two terms & Then Pull out the GCF out of last two terms

$x(x - 2) + 3(x - 2)$

Pull out the GCF(which is a common Bracket)

$(x - 2)(x + 3)$

notice these are the factors

So for simple Trinomials you can use the rule →

$x^2+4x-21$

Sign on largest factor

Sign are different

x
-21

$-1, +21$

$-3, +7$

$+$

$(x-3)(x+7)$

Another way to look at it:

1. x^2+1x-6

What numbers multiply to give -6?

list factors of 6:
1 x 6

2 x 3

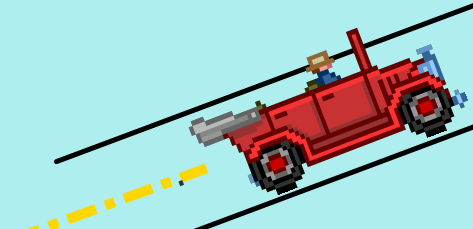
What pair of factors could add together to get 1?

-1 + -6	-1 + +6	+1 + -6	1 + 6
-2 + -3	-2 + 3	2 + -3	2 + 3

too much work

See next page for rules!!!!!!!!

Rules of the road...



x^2+5x-6

Sign of the biggest number.

Signs are different.

x^2-5x+6

Sign of the biggest number.

Signs are the same.

x^2-5x+6

Sign of the biggest number.

Signs are the same.

$\frac{x}{+6}$ $\frac{+}{-5}$

$-1,-6$

$-2,-3$ ←

So must be $(x-2)(x-3)$

$(x-2)(x-3)$ are your factors

x^2+5x-6

Sign of the biggest number.

Signs are different.

+, −

x	+
−6	+5
−1, +6	
−2, +3	

So must be $(x-1)(x+6)$

( ) ( ) are your factors

$$x^2+5x-6$$

Factor Each of the following:

(Finish For homework)

Quiz Thursday

1. $x^2 - 14x + 45$	2. $x^2 + 17x + 60$
3. $x^2 - 18x + 80$	4. $x^2 - 10x + 16$
5. $x^2 - 6x + 9$	6. $x^2 - 7x + 6$
7. $x^2 + 20x + 99$	8. $x^2 + 3x - 18$
9. $x^2 - 3x - 88$	10. $x^2 - 16x + 48$
11. $x^2 + 11x + 30$	12. $x^2 - 14x + 33$
13. $x^2 + x - 30$	14. $x^2 - 3x - 70$
15. $x^2 + 8x - 9$	16. $x^2 - 16x + 55$
17. $x^2 + 6x - 72$	18. $x^2 + 5x - 50$
19. $x^2 + 10x + 24$	20. $x^2 + 6x - 16$

1a) $x^2 - 14x + 45$

sign on larger factor

signs same

x	+
+45	−14

- $-1, -45$
- $-3, -15$
- $-5, -9$

$(x-5)(x-9)$

2) $x^2 + 17x + 60$

sign on larger factor is +

signs are same

X	+
+60	+17

+1, +60
+2, +30
+3, +20
+4, +15
+5, +12
+6, +10

$(x+5)(x+12)$

8) $x^2 + 3x - 18$

largest is +

sign diff

X	+
-18	+3

-1, +18
-2, +9
-3, +6

$(x-3)(x+6)$