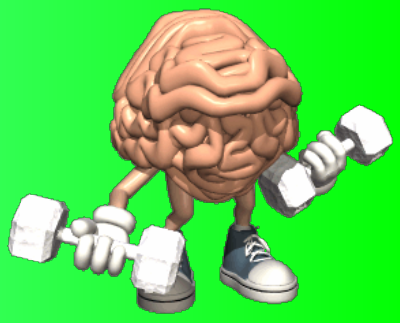
Warm Up



Expand and Simplify

$(x-5)^2 - (3x+5)^2$

$(x-5)(x-5) - (3x+5)(3x+5)$

$x^2 - 5x - 5x + 25 - (9x^2 + 15x + 15x + 25)$

$x^2 - 10x + 25 - 9x^2 - 30x - 25$

$-8x^2 - 40x$

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?"

Adds to get "b"

$ax^2 + bx + c$

Multiplies to get "c"

EXAMPLES... SOLUTIONS

1) $x^2 + 13x - 48$ — add +13, +16 −3; multiply −48; $(x+16)(x-3)$

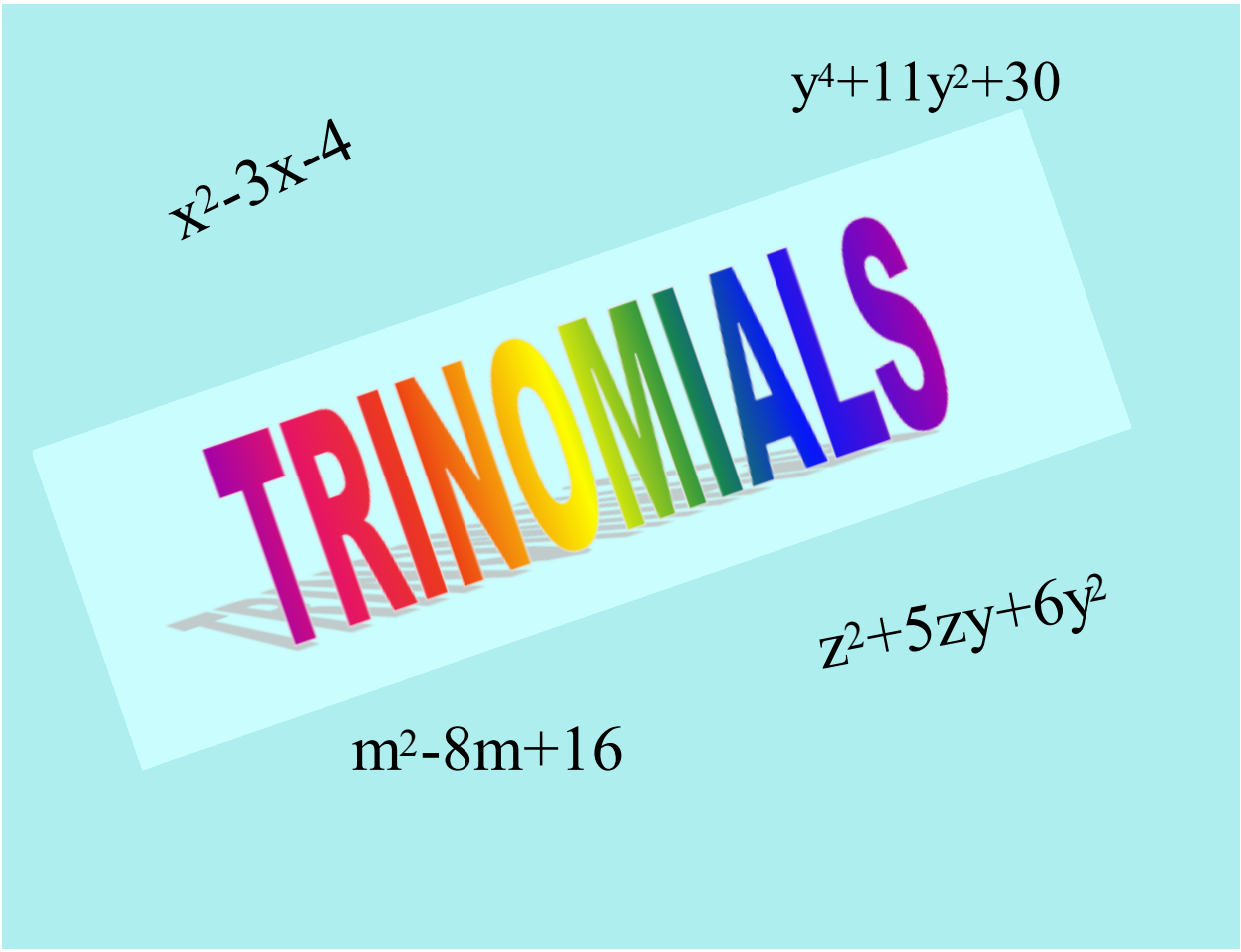
2) $x^2 - 10x - 24$ — Add −10; Mult −24; $2 + (-12) = -10$; $(x+2)(x-12)$

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

$(x+16)(x-3)$

$x^2+16x-3x-48$

$x^2+13x-48$



Work

diff

1. x^2+1x-6

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

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

Find two numbers that

multiply to give -6.

1x6

2x3

add: to give 1

1. x^2+1x-6

$x^2+4x-21$

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!!!!!!!!

x^2-5x+6

Add -5 Mult +6
-2 & -3 1 x 6
2 x 3

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

So must be 1 6

2 3 only pair that works

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

x^2+5x-6

So must be

-1 +6 only pair that works

-2 +3

(x-1) (x+6) are your factors

① x^2+bx+c

$(x+\_)(x+\_)$

② x^2-bx+c

$(x-\_)(x-\_)$

③ $x^2 \pm bx - c$

* biggest # takes sign of middle term

$(x+\_)(x-\_)$

Factor Each of the following:

(Finish For homework) #1-10

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. $x^2 + 6x - 16$

$x^2 + 20x + 99$ $\times 99$ $+20$

1×99

3×33

9×11

$++$

$(x+9)(x+11)$