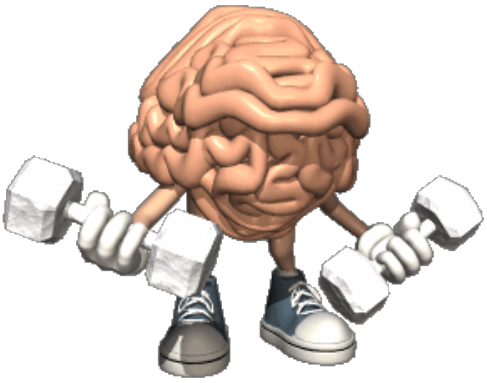
Warm Up



Expand and Simplify

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

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

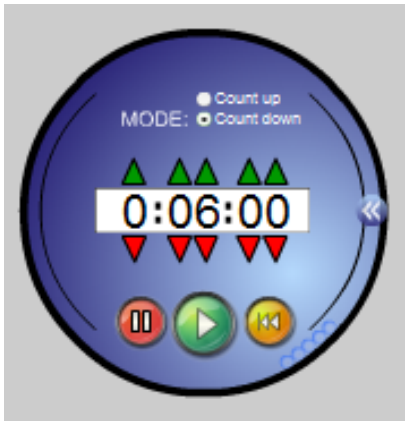
$x^2-5x-5x+25 - (9x^2+15x+15x+25)$

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

add opposites

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

$-8x^2 \quad -40x$



Quiz Time

1) GCF (Box)

2) Tree
Primes ⇒ 2, 3, 5, 7, 11, 13

3) Pull out a comon factor

4) Collect like terms first then pull out common factor

5) Multiply then collect like terms

6) Rainbow (Multiply)

4c) $\frac{9}{10} \div \frac{7}{3}$

LCM | 10 | 3 |

LCM = 3 x 10
= 30

$\frac{27}{30} \div \frac{70}{30}$

$\frac{27}{70}$

Look at the numbers in the trinomial and the binomial.

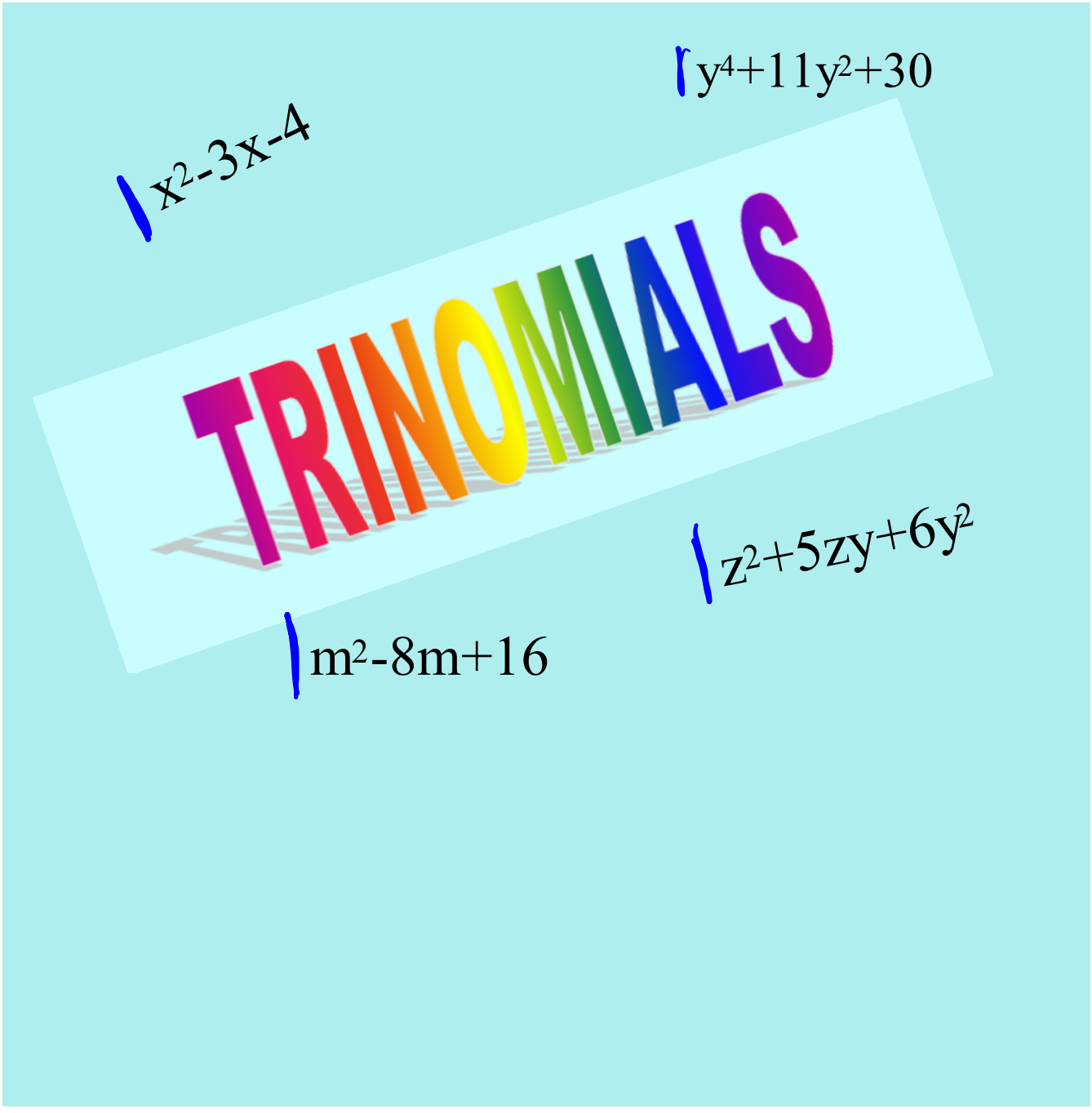
?

$v^2 + 12v + 20 = (v + 2)(v + 10)$

?

?


Factoring and Multiplying Polynomials are inverse operations



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

Simple Trinomials

- has three terms with the form...

$$ax^2 + bx + c$$

$$1x^2 + bx + c$$

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

last multiply: -48 add: $+13$

$-1, +48$
$-2, +24$
$-3, +16$
$-4, +12$
$-6, +8$

Sign on larger factor is positive. Signs are different.

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

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

x: -24 $+$: -10

$+1, -24$
$+2, -12$
$+3, -8$
$+4, -6$

Sign on largest factor is $-$. Signs are diff.

$(x+2)(x-12)$

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

$2(x^2 - 10x + 21)$

x: $+21$ $+$: -10

$-1, -21$
$-3, -7$

Sign on larger factor. Since (+) then signs are the same.

$2(x-3)(x-7)$

4) $x^2 - 6x + 9$

x: $+9$ $+$: -6

$-1, -9$
$-3, -3$

Sign on larger factor. Same sign both (+) or both (−).

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

$(-1) + (-2) = -3$

or

$(-10) + (+2) = -8$

Work

1. x^2+1x-6

Signs are opposite

sign on larger factor is +

Find two numbers that

multiply
to give -6.

add:
to give $+1$

$-1, +6$
$-2, +3$

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

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 -6

add: to give $+1$

-2 ; $+3$

$$x^2 + 1x - 6$$

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 →