What's Going On?

Checking In	Homework Logs
Minds on	This is how we factor
Action!	Factoring Sort
Consolidation	So much practice!

Learning Goal - I will factor. A lot!

Checking In

F.F.M.

Get your grid books.

Factor

$$4x^2 - 5xy - 6y^2$$

2 #s

$= 4x^2 - 8xy + 3xy - 6y^2$

$x \rightarrow (4)(-6)$

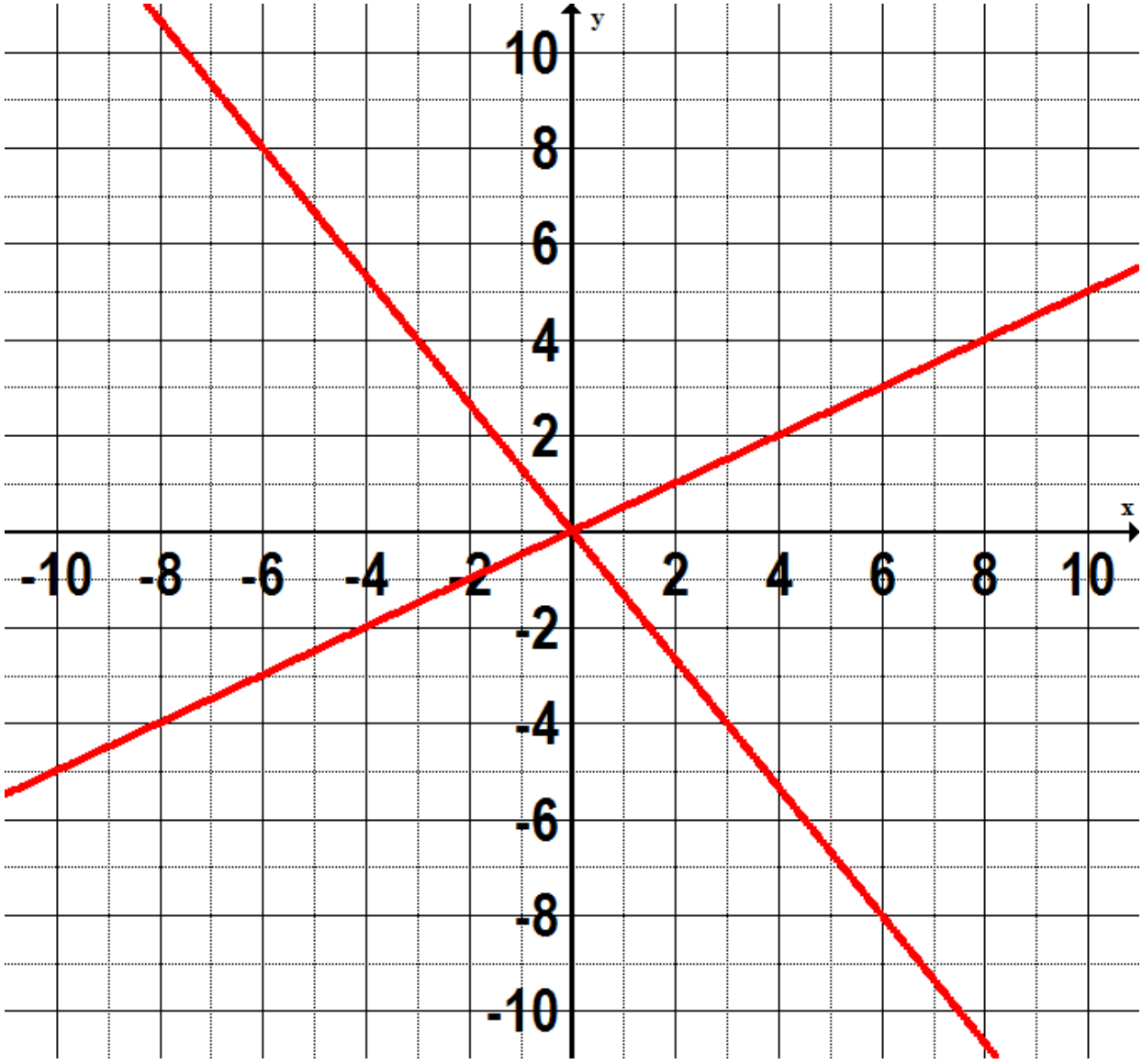
$+ \rightarrow (-5)$

$= 4x(x - 2y) + 3y(x - 2y)$

$= (x - 2y)(4x + 3y)$

Factor

$$4x^2 - 5xy - 6y^2$$



Minds on

Paradoxical Factoring

Factor It!

$5x(2 - x) + 4x(2x - 5) - (3x - 4)$

$= 10x - 5x^2 + 8x^2 - 20x - 3x + 4$

$= 3x^2 - 13x + 4$

$= 3x^2 - 12x - x + 4$

$= 3x(x - 4) - 1(x - 4)$

$= (x - 4)(3x - 1)$

Action!

This is how we factor

Factor fully, where possible.

$4t(t^2 + 4t + 2) - 2t(3t^2 - 6t + 17)$

$7x^2(x + 1) - x(x + 1) + 6(x + 1)$

$x^3 - x^2 - 4x + 4$

$4x^3 - 6x^2 + 2x$

$16a^2 - 80a + 100$

$x^2 + 81$

$-3x^8 + 768$

Action!

This is how we factor

Factor.

$4t(t^2 + 4t + 2) - 2t(3t^2 - 6t + 17)$

1. Expand!

$= 4t^3 + 16t^2 + 8t - 6t^3 + 12t^2 - 34t$

2. Collect like terms!

$= -2t^3 + 28t^2 - 26t$

3. Common Factor

$= -2t(t^2 - 14t + 13)$

4. Factor the simple trinomial

$= -2t(t - 1)(t - 13)$

Action!

This is how we factor

Factor.

$$7x^2(x + 1) - x(x + 1) + 6(x + 1)$$

$(x+1)(7x^2 - x + 6)$

that's it.

no numbers x to 42

and + to -1

Action!

This is how we factor

Factor fully.

$$x^3 - x^2 - 4x + 4$$
$$= x^2(x-1) - 4(x-1)$$
$$= (x-1)(x^2-4)$$
$$= (x-1)(x+2)(x-2)$$

Action!

This is how we factor

Factor.

$$4x^3 - 6x^2 + 2x$$

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

$$= 2x(2x^2 - 2x - 1x + 1)$$

$$= 2x(2x(x-1) - 1(x-1))$$

$$= 2x(x-1)(2x-1)$$

Action!

This is how we factor

Factor. $(4a-10)^2$

$16a^2 - 80a + 100$

$= 4(4a^2 - 20a + 25)$

$= 4(2a-5)^2$

Same!

Although both answers are the same, we should ALWAYS common factor whenever we can. It makes for, in this case, a more simplified solution.

Action!

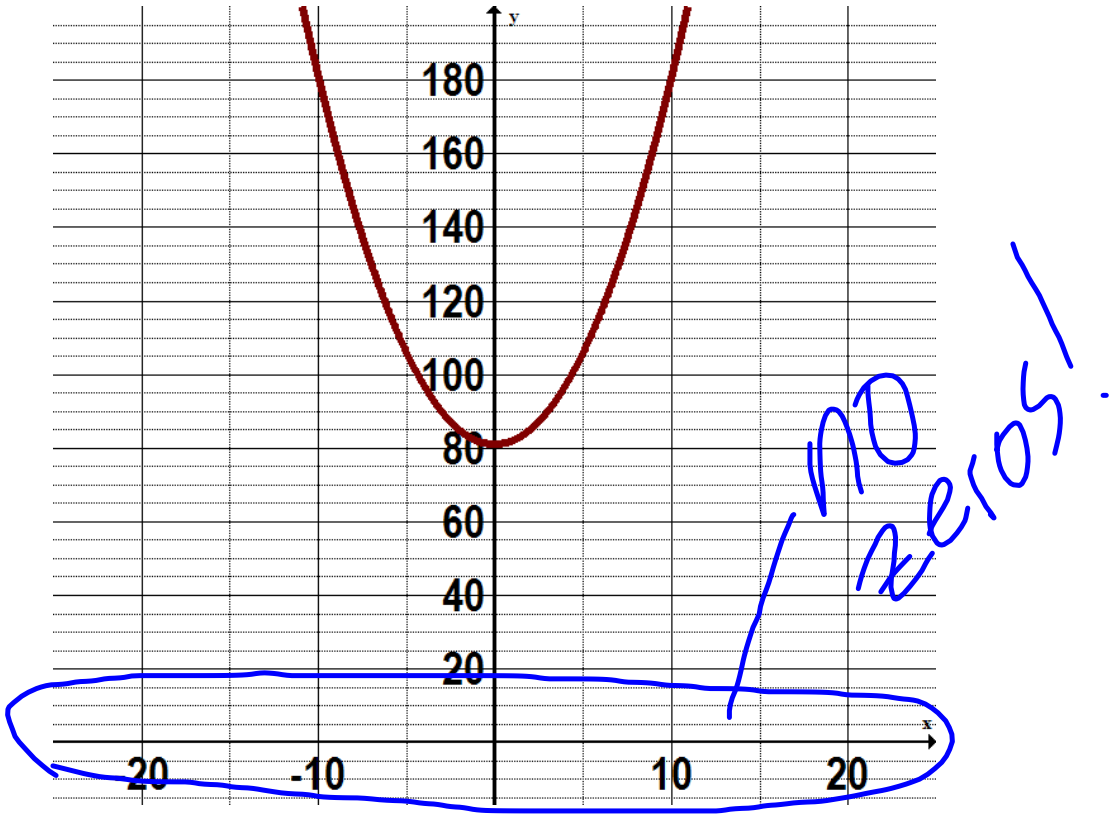
This is how we factor

Factor fully.

$$x^2 + 81$$

Cannot be factored!

What does this mean?



Action!

This is how we factor

Factor fully.

$$-3x^8 + 768$$

$$= -3(x^8 - 256)$$

$$= -3(x^4 + 16)(x^4 - 16)$$

$$= -3(x^4 + 16)(x^2 + 4)(x^2 - 4)$$

$$= -3(x^4 + 16)(x^2 + 4)(x + 2)(x - 2)$$

So... what are the zeros?!

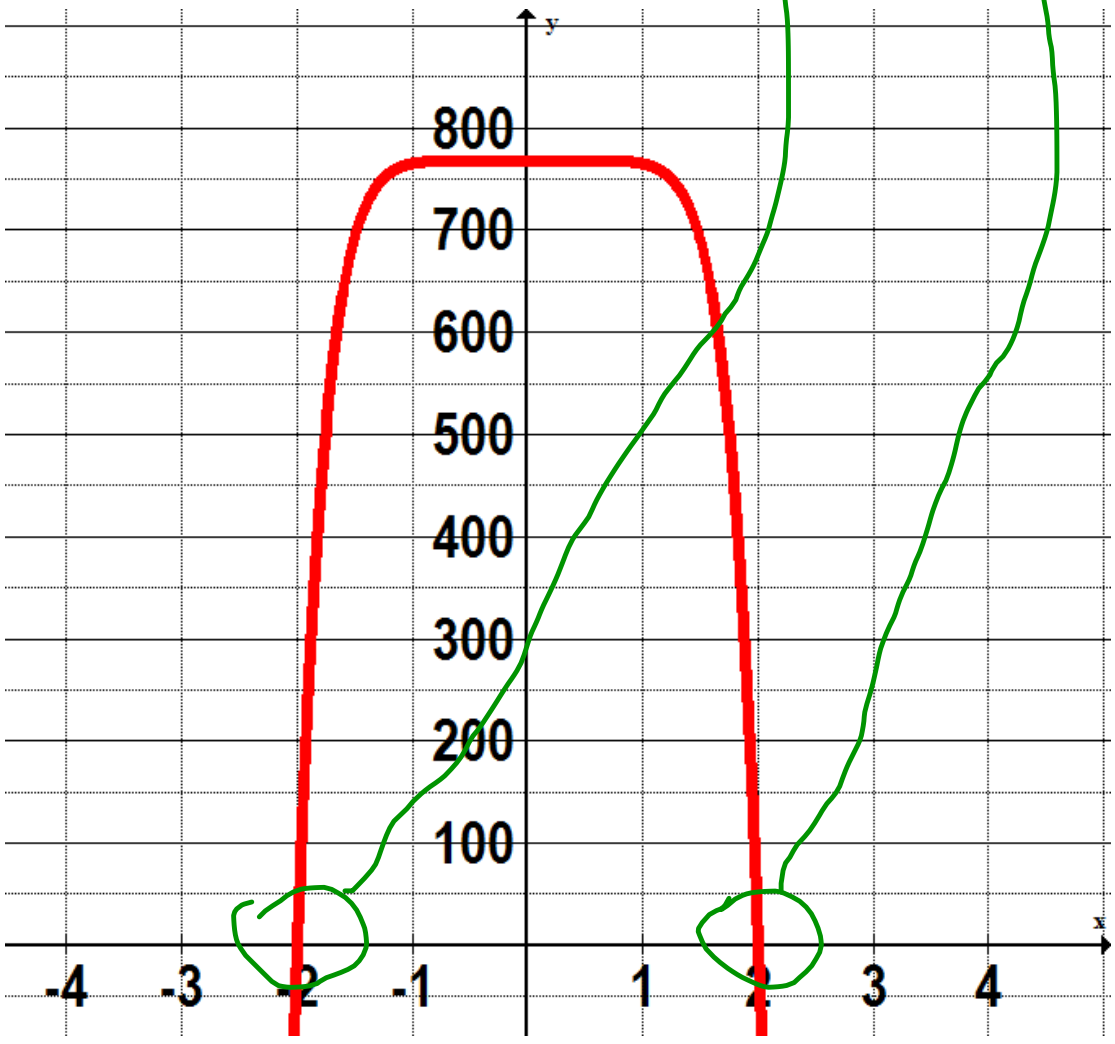
Action!

This is how we factor

Factor fully.

$$-3x^8 + 768$$

$$= -3(x^4 + 16)(x^2 + 4)(x + 2)(x - 2)$$



Consolidation

Factoring **RE**-Sort

Common Factor

Grouping

Simple Trinomial

Complex Trinomial

Difference of Squares

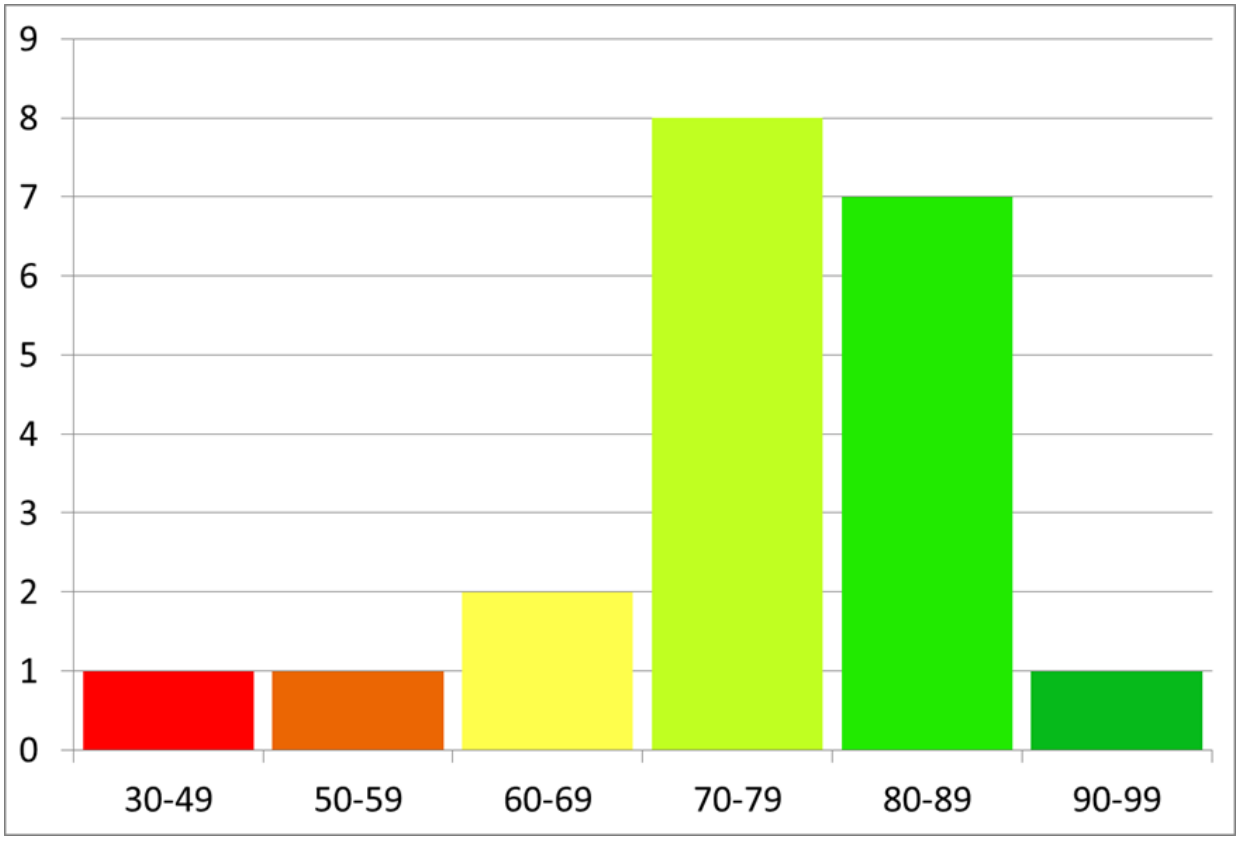
Perfect Square Trinomial

Consolidation

Homework!

gilbertmath.com

Test 1 – Mark Distribution



Unit 1 – Mark Distribution