Warm-Up

On a piece of paper, write down everything you know about quadratics so far

Announcements

Complete Hidden Figures by next Monday! Reading guides will be posted today

Return graded work

Hidden Figures Due Dates

- 17-20 due tonight!
- 21-23 due March 25 → Book completed!

When we have finished the novel,
we will watch the movie!

Unit Map - Quadratics

~~Tuesday, 3/12/2019 - Standard Form of Graphing Quadratics~~
~~Wednesday, 3/13/2019 - Half-Day, HF Reading Day with Substitute Ms. Krupski~~
~~Thursday, 3/14/2019 - Quadratic Functions~~
~~Friday, 3/15/2019 - Solving Quadratic Equations by Graphing with Substitute Ms. Mitchell~~
Monday, 3/18/2019 - Solving Quadratic Equations by Factoring
Tuesday, 3/19/2019 - Review activities
Wednesday, 3/20/2019 - The Quadratic Formula
Thursday, 3/21/2019 - Vertex Form
Friday, 3/22/2019 - Quadratic Word Problems
Monday, 3/25/2019 - Word Problems Continued (NC Check-Ins) with Substitute Ms. Mitchell
Tuesday, 3/26/2019 - Systems of Linear and Quadratic Equations
Wednesday, 3/27/2019 - Review Day
Thursday, 3/28/2019 - Test Day
Friday, 3/29/2019 - Begin watching Hidden Figures

The Quadratics Test will be the first grade of the 4th Quarter.

Let’s discuss what happened on Friday

HERE

Solving Quadratic Equations by Factoring

3/18/2019

Kate’s Math Lesson

HERE

Solving by Factoring

SWBAT solve quadratic equations by factoring.

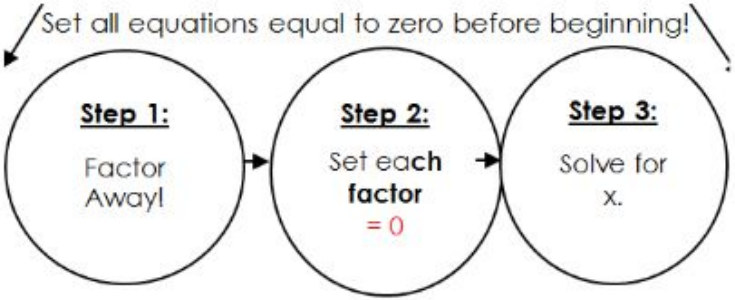
Essential Understanding You can solve some quadratic equations, including equations where $b \neq 0$, by using the *Zero-Product Property*.

take note

Property Zero-Product Property

For any real numbers a and b, if $ab = 0$, then $a = 0$ or $b = 0$.

Example If $(x + 3)(x + 2) = 0$, then $x + 3 = 0$ or $x + 2 = 0$.

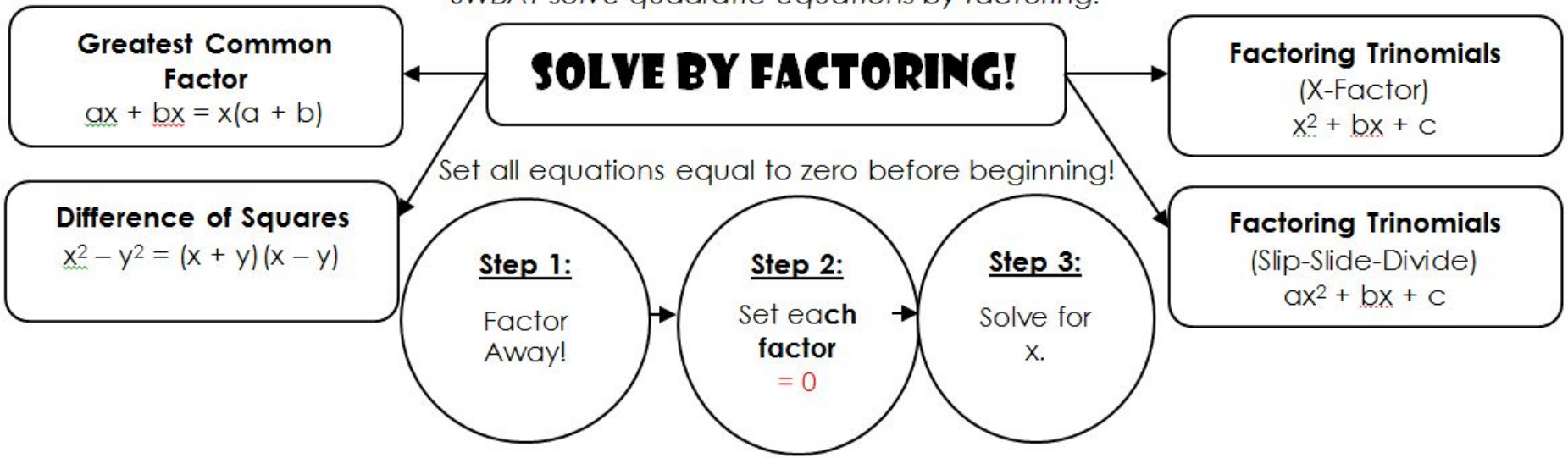


Math 1

Solving by Factoring

Chapter 9.4

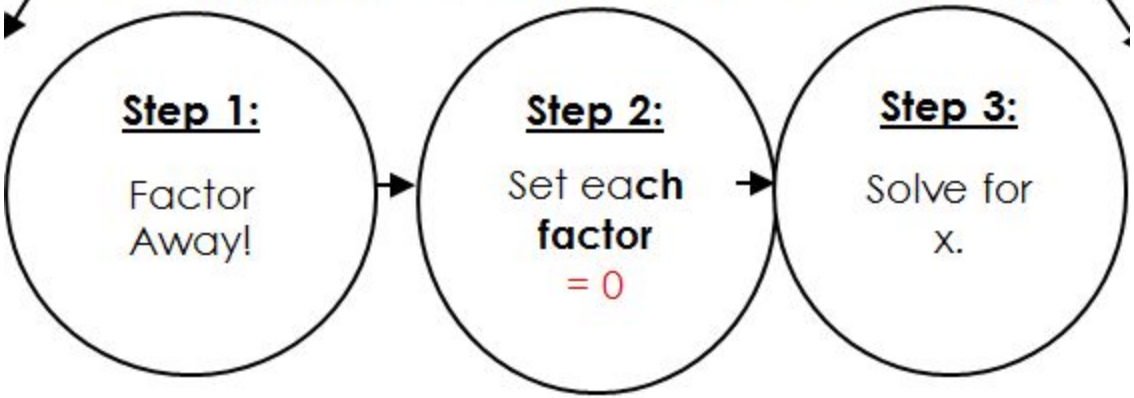
SWBAT solve quadratic equations by factoring.



Example 1: What are the solutions of the equation

$(4t + 1)(t - 2) = 0$

Set all equations equal to zero before beginning!

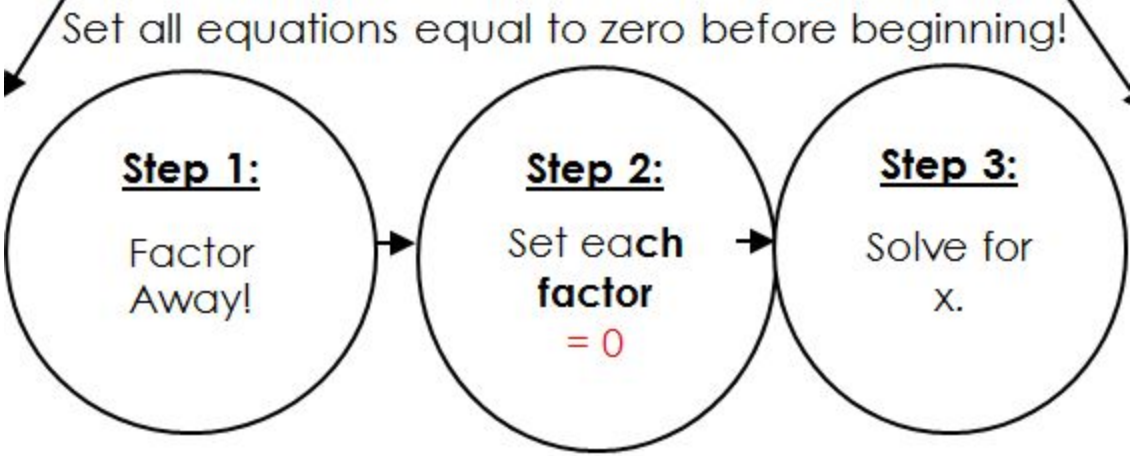


a. $(x + 1)(x - 5) = 0$

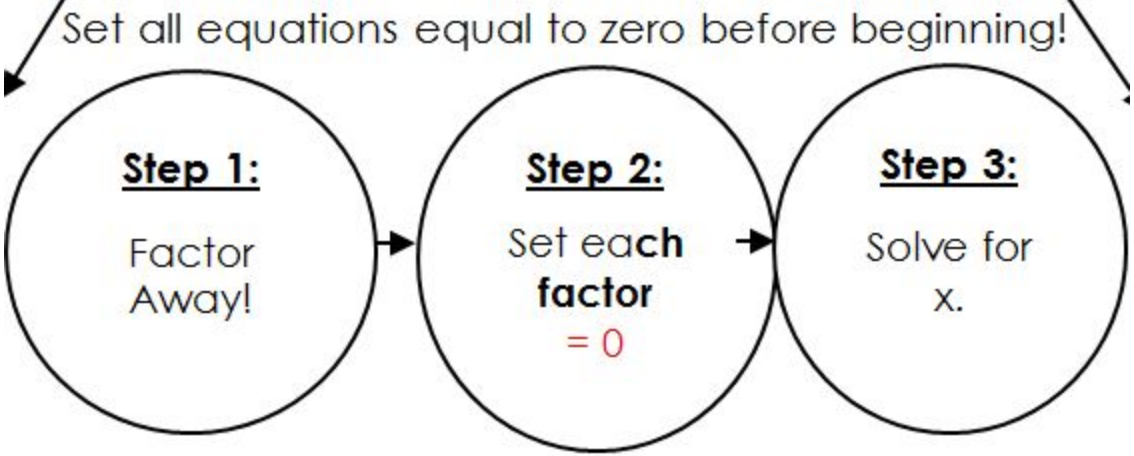
b. $(2x + 3)(x - 4) = 0$

c. $(2y + 1)(y + 14) = 0$

d. $(7n - 2)(5n - 4) = 0$



Example 2: What are the solutions of the equation $x^2 + 8x + 15 = 0$

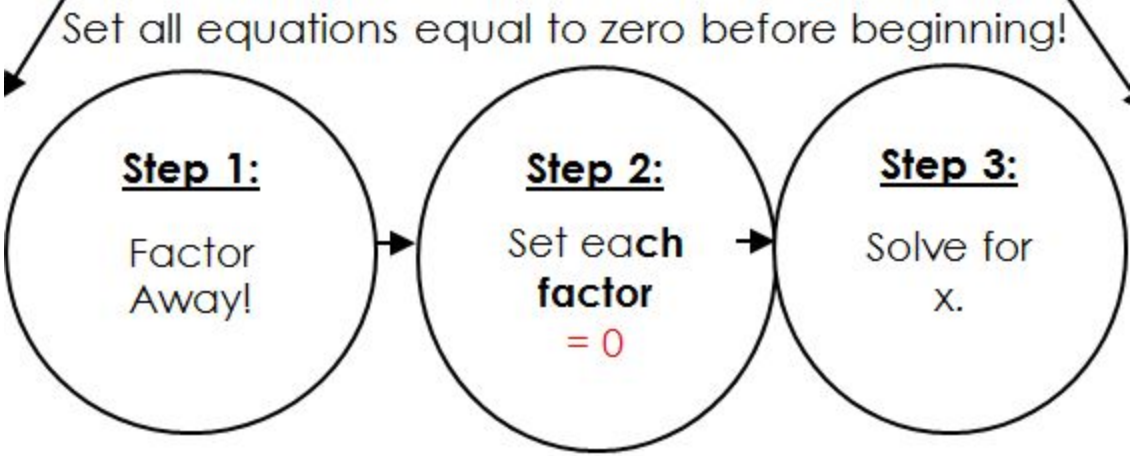


Practice:

a. $m^2 - 5m - 14 = 0$

b. $p^2 + p - 20 = 0$

c. $2a^2 - 15a + 18 = 0$



Example 3: What are the solutions of $4x^2 - 21x = 18$

Photography You are constructing a frame for the rectangular photo shown. You want the frame to be the same width all the way around and the total area of the frame and photo to be 315 in.^{2}. What should the outer dimensions of the frame be?

Know Need Plan

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Practice: Suppose in the previous problem the total area is 391 in^2

You are making a rectangular table. The area of the table should be 10 $ft^{2.}$ You want the length of the table to be 1 ft shorter than twice its width. What should the dimensions of the table be?

Jason has a patio of uniform width around the perimeter of his rectangular pool. The pool measures 22 ft by 12 ft. If the area of the pool and the patio is 504 ft^2, what is the width of the patio?

Your turn: Solve each of the following by factoring. Check your solutions by graphing.

1. $x(x+4) = 0$
2. $(2x+1)(3x-4) = 0$
3. $x(3x+9) = 0$
4. $x^2 - 64 = 0$
5. $-x^2 = -121$
6. $3x^2 - 81 = 2$□^{2}
7. $-3x^2 = 21x + 36$
8. $x^2 - 12x + 36 = 0$
9. $x^2 - 2x = 15$
10. $3x^2 + 31x + 36 = 0$
11. $2x^2 - 18x = -24x$
12. $5x^2 + 32x = -28x$

A box shaped like a rectangular prism has a volume of 280 in^3. Its dimension are 4 in. by (n + 2) in. by (n + 5). Find n.

Homework

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