Algebra II Notes 9/25/18

Solving Quadratic Equations by Factoring

As you come in, find your new team. Your team has been assigned one problem from the homework to do on your team’s white board(s). First, do the warm-up to the best of your ability. Then move right into the assigned problem. Show your work! Ms. Burchfield will go over the warm-up, and then you will need to present your team’s work.

Warm-up:

Sort the steps for solving quadratics by factoring, listed below, into the CORRECT order in your notebook:

* Make sure that the equation is = 0 (or, if not, add or subtract on both sides of the equation to obtain this).
* Set each factor = 0 and solve.
* Make sure you have an answer for each factor!
* Factor the side of the equation that is NOT just zero. (Follow the steps for factoring!)

Now, make sure you and your team can all explain the work for your assigned problem. Take any notes you need from your classmates’ work in your notebook.

Today, we’ll learn one more factoring technique. Like our previous technique, this technique only works for quadratic expressions in the form ax2 + bx + c. What do you think will be different about this technique?

Here is an example of the kind of quadratic expression we will factor today:

2x²+7x+3

Write the solution AND the steps as we complete the problem together.

Here are two more problems to do:

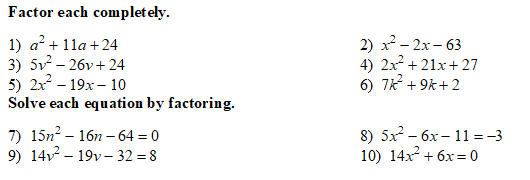
3*x2*+10*x*+8

6*x2*−5*x*−4

Now start the classwork/homework.

Exit ticket: Identify ONE problem we covered today that you can solve step-by-step, and show all the work for that problem on your exit ticket.

Classwork/homework if not finished:



https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-2/a/factoring-quadratics-leading-coefficient-not-1

Algebra II Notes 9/27-28/18

Difference of Squares

Warm-up: Simplify (x + 3)(x + 3) AND (x + 3)(x – 3)

Homework review: List questions you still have on the homework.

Today, we’ll learn two special cases of factoring. One is called a perfect square. How can you rewrite (x + 3)(x + 3) to indicate that something is squared in this expression?

Let’s solve an equation involving a perfect square:

x2 + 12x + 36 = 0

Write the solution AND the steps as we complete the problem together. What do you notice? You might refer back to the warm-up.

TWO interesting things happened in the warm-up. Refer back to the second problem. What did you notice?

Here are two problems you might see involving “Difference of Squares.” Take notes as we go!

Factor m2 – 25

Solve 4b2 – 49 = 0 by factoring.

General form of difference of squares:

Now start the classwork/homework.

Closure: List the different types of factoring problems we’ve covered and how to solve them.

Classwork/homework if not finished:

**Factor each completely.**

1) 9x2 − 1 2) 4n2 − 49

3) 36k2 − 1 4) p2 − 36

5) 2x2 − 18 6) 196n2 − 144

7) 180m2 − 5 8) 294r2 − 150

9) 150k2 − 216 10) 20a2 – 45

https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-diff-of-squares/a/factoring-quadratics-difference-of-squares