Math 1 **3.2 Solving by Factoring** Unit 3

*SWBAT solve quadratic equations by factoring.*

**Greatest Common Factor**

ax + bx = x(a + b)

**Factoring Trinomials**

(X-Factor)

ax2 + bx + c

Solve by Factoring!

Set all equations equal to zero before beginning!

**Difference of Squares**

x2 – y2 = (x + y)(x – y)

**Grouping**

Four-term polynomials

**Directions**: 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
	1. $x^{2} – 64 = 0$
	2. $-x^{2}= -121$
	3. $3x^{2} - 81 = 2x^{2}$
4. $3x^{2}+31x+36=0$
5. $2x^{2}-18x=-24x$
6. $5x^{2}+32x=-28x$
7. 
8. 
9. 

Math 1 **3.3 Quadratic Word Problems** Unit 3

*SWBAT solve quadratic word problems by factoring.*

**Consecutive Integers**

Consecutive means one after the other. To find the product, the first number (x) should be multiplied with the second (x + 1) to find the total.

1. The product of two consecutive negative integers is 1122. What are the numbers?

**Missing Lengths to Find Area**

Pictures usually help here if you are a visual person. Make sure you are using the correct formulas for area!

1. The width of a rectangle is (x-5) and the length is (x+2). What is the length and width of the rectangle if the area is 18 square feet?
2. The width of a rectangle is (x+1) and the length is (x-6). What is the length and width of the rectangle if the area is 30 square feet?
3. The area of a triangular lot is 225 square feet. The base of the lot is 7 more than its height. Find the length of the base and the height.



**Increasing or Decreasing Lengths by “x”**

1. A garden measuring 12 meters by 16 meters is to have a pedestrian pathway installed all around it, increasing the total area to 285 square meters. What will be the width of the pathway?
2. A room measures 18 x 23. The length and width is increased by ‘x’. What is the length and width after the increase if the area of the room is now 546 square feet?