

## Bell Ringer - Do #1 and #3

Tuesday 9/24

Factor Completely

1.  $3x^2 - 21$

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

3.  $18h^3 + 45h^2 - 8h - 20$

$$9h^2(2h+5) - 4(2h+5)$$

$$(2h+5)(9h^2-4)$$

2.  ~~$x^2y + x^3 - 7xy$~~

4.  ~~$2r^3 + 12r^2 + 5r + 30$~~

Name \_\_\_\_\_ Hour \_\_\_\_\_

Trimester 1

**Due today!**

Math 2 Week #5 Packet

Date	Sections Done in Class	Homework Assigned	Homework Due Score /10
Mon 9/16	<b>Factoring: Greatest Common Factor</b>	<b>Factoring out the GCF ws</b>	<b>x</b>
Tue 9/17	<b>2.4 Solving Polynomial Equations in Factored Form</b>	<b>2.4 Solving Polynomial Equations in Factored Form</b> Pg 85-86 #s 1-2 ,3, 5, 9, 13, 15, 19, 22, 23, 27-37 odds, 38, 49, 50	<b>Week #4 Packet due</b>
Wed 9/18	<b>Factor by Grouping - Four Terms</b>	<b>Factor by grouping ws</b>	<b><u>Factoring out the GCF ws</u></b> <b>/10</b>
Thurs 9/19	<b>2.5 Day 1 – Factoring Trinomials where a = 1</b>	<b>2.5 Day 1 – Factoring Trinomials when a = 1</b> Pg 93-94 #s 1, 3, 7, 9, 13, 17, 21, 25, 29, 33, 44	<b><u>2.4 Solving Polynomial Equations in Factored Form</u></b> <b>/10</b>
Fri 9/20	<b>Standard 2A – Opportunity 1</b>	<b>Finish any missing hw</b>	<b><u>Factor by grouping 4 terms ws</u></b> <b>/10</b>
Mon 9/23	<b>x</b>	<b>x</b>	<b><u>2.5 Day 1 – Factoring Trinomials when a = 1</u></b> <b>/10</b>
Tues 9/24	<b>x</b>	<b>x</b>	<b>Nothing due</b>
<b>Bell Ringers – 2 pts per day</b>			<b>/8</b>
<b>Assignment Total for Week #5</b>			<b><u>/48</u></b>

Upcoming...

- Mon 10/7: Standard 2A – Opportunity 2 & Standard 2B Opportunity 1
- Mon 10/7: Parent Teacher Conferences 3:15-6:15 pm
- Tues 10/8: No School – Parent Teacher Conferences 8-11 am
- Fri 10/11: No School

**Essential Question:**  
How do we factor a trinomial  $ax^2 + bx + c$   
when a isn't 1?!?!

I do...

## Factor the trinomial

- 1 - Put in standard form ✓
- 1.5 - FACTOR OUT THE GCF ✓
- 2 - Multiply  $a$  and  $c$  ✓
- 3 - Find factors of  $ac$  that add to  $b$  ✓
- 4 - Rewrite trinomial by splitting  $b$  into the two factors found in step 3 ✓
- 5 - Factor by grouping :)

$$\underline{6x^2} + 11x - \underline{2}$$

$$\begin{array}{c} -12 \\ \swarrow \quad \searrow \\ +1 \quad -12 = -11 \\ \boxed{-1 \quad +12} \end{array}$$

$$\begin{array}{l} a = 6 \\ b = 11 \\ c = -2 \end{array}$$

$$\underline{6x^2 - 1x + 12x - 2}$$

$$x(\underline{6x - 1}) + 2(\underline{6x - 1})$$

$$\boxed{(6x - 1)(x + 2)}$$

We do...

### Factor the trinomial

- 1 - Put in standard form ✓
- 1.5 - FACTOR OUT THE GCF ✓
- 2 - Multiply a and c ✓
- 3 - Find factors of ac that add to b ✓  
-8, +9
- 4 - Rewrite trinomial by splitting b into the two factors found in step 3 ✓
- 5 - Factor by grouping :)

$$\begin{array}{r}
 -72 \\
 \wedge \\
 \begin{array}{cc}
 +1 & -72 \\
 -1 & +72 \\
 \hline
 -8 & +9 \\
 -9 & +8
 \end{array}
 \end{array}$$

$$\begin{aligned}
 &12y^2 + 2y - 24 \\
 &2(b y^2 + y - 12) \quad \begin{array}{l} a=b \\ c=-12 \\ b=1 \end{array} \\
 &2(b y^2 - 8y + 9y - 12) \\
 &2(2y(3y-4) + 3(3y-4)) \\
 &2(3y-4)(2y+3)
 \end{aligned}$$

## Do w/ partner... Factor the trinomial

1 - Put in standard form

## 1.5 - FACTOR OUT THE GCF

2 - Multiply  $a$  and  $c$ 3 - Find factors of  $ac$  that add to  $b$ 4 - Rewrite trinomial by splitting  $b$  into the two factors found in step 3

5 - Factor by grouping :)

$$\underline{3a^2 - 14a + 8}$$

$$\begin{array}{c}
 +24 \\
 \wedge \\
 - \quad \quad - \\
 \quad 1 \quad 24 \\
 \textcircled{-2 \quad -12}
 \end{array}$$

$$\begin{array}{l}
 \underline{3a^2 - 2a - 12a + 8} \\
 a(3a - 2) - 4(3a - 2) \\
 (3a - 2)(a - 4)
 \end{array}$$

Do alone...

## Factor the trinomial

1 - Put in standard form

1.5 - FACTOR OUT THE GCF

50  
10 · 5

$$5h^2 + 15h + 10$$

$$5(h^2 + 3h + 2)$$

2 - Multiply  $a$  and  $c$ 3 - Find factors of  $ac$  that add to  $b$ 4 - Rewrite trinomial by splitting  $b$  into the two factors found in step 3

$$+2$$
$$1 \quad 2$$

5 - Factor by grouping :)

$$5(h+1)(h+2)$$

$$(5h+5)(h+2)$$
$$5(h+1)(h+2)$$

Solve for x:  $8x^2 + 22x + 15 = 0$ 

	120
	^
1	120
2	60
3	40
4	30
5	24
6	20
8	15
10	12

$$\underline{8x^2 + 12x} + \underline{10x + 15} = 0$$

$$\underline{4x(2x+3)} + \underline{5(2x+3)} = 0$$

$$\underline{(2x+3)}(4x+5) = 0$$

$$2x + 3 = 0$$

$$-\cancel{3} \quad -\cancel{3}$$

$$\frac{2}{2}x = -\frac{3}{2}$$

$$x = -\frac{3}{2}$$

$$4x + 5 = 0$$

$$-\cancel{5} \quad -\cancel{5}$$

$$\frac{4}{4}x = -\frac{5}{4}$$

$$x = -\frac{5}{4}$$



What would my first step be to solve for x?

$$14x^2 - 2 = -3x$$

$$14x^2 + 3x - 2 = 0$$

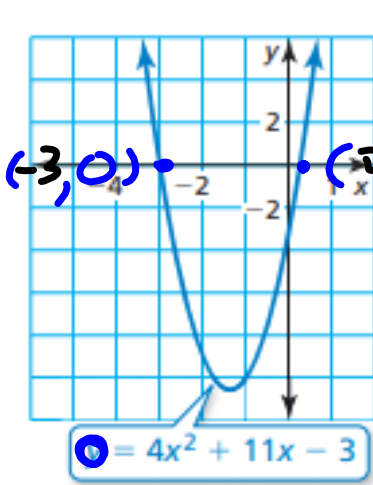
$$-2x^2 - 7x = 5$$

$$-2x^2 - 7x - 5 = 0$$

$$x^2 + 9x + 2 = -x^2$$

$$x^2 + 9x + 2 = 0$$

Find the x-coordinates of the points where the graph crosses the x-axis



$$-12 \quad +12 \quad -1, \quad 4x^2 + 11x - 3 = 0$$

$$4x^2 + 12x - 1x - 3 = 0$$

$$4x(x+3) - 1(x+3) = 0$$

$$(x+3)(4x-1) = 0$$

$$x+3=0$$

$$-3 \quad -3$$

$$x = -3$$

$$4x-1=0$$

$$+1 \quad +1$$

$$x = \frac{1}{4}$$

The area of the sign is  $2x^2 - 13x - 7$ .

What expressions represent the dimensions of the sign?



What are the dimensions if  $x = 10$ ?

2.6 Day 1 hw pg 99 - 100 #s 1, 3, 7, 11, 15,  
19, 20, 23, 25, 29, 33, 49, 51

