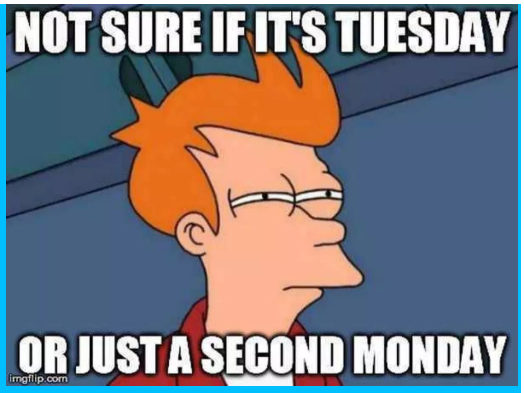
Tuesday 8/20/19



1. Take out HW/Calendar
2. Grab Notes/Calculator, Warm-Up
3. Finish Factoring Trinom. Notes
4. Factoring Special Cases
5. QUIZ THURSDAY!!! (Over Factoring)

Topic: Factoring Special Cases **Name:** _____

What am I learning today?

Warm-Up
Factoring Trinomials

Factor the following trinomials completely:

1. $x^2 + 19x + 90$
2. $2x^2 - 23x + 45$
3. $9x^3 + 13x^2 + 4x$

Vocabulary

Difference of Squares

$a^2 - b^2$

Identified by: _____

Requirements
1. 2 terms
2. Minus sign between them
3. Both must be perfect squares

Steps:
1. Factor out any GCF
2. Factor the product into $(a+b)(a-b)$

or:
1. Write 0 for middle term: $ax^2 + 0 + b^2$
2. Use the M-A chart to factor

Examples

1. $a^2 - 64$
2. $9x^2 - 100y^2$
3. $3t^2 - 48$

You Try

1. $a^2 - 121$
2. $16x^2 - 169y^2$
3. $25t^2 - 4$
4. $9 - n^2$
5. $n^2 + 36$
6. $2n^2 - 50$

Not factorable

Topic: Factoring Special Cases **Date:** _____

Vocabulary

Sum of Perfect Cubes

Difference of Perfect Cubes

Identified by: + (sum) or − (difference)

Requirements
1. 2 terms
2. + or − sign between them
3. BOTH must be perfect cubes.

Steps:
1. Factor out any GCF
2. For SUM of cubes, factor the product into:
$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$
3. For DIFFERENCE of cubes, factor the product into:
$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

Reminder

HELPFUL HINTS
We can remember the signs by using the word SOAP:
S – same sign **O** – opposite sign **A** – always **P** – positive

We can remember the terms by using:
"Square, multiply, square"

Examples

1. $x^3 + 8 = (x + 2)(x^2 - 2x + 4)$ (binomial, trinomial)
$\sqrt[3]{x^3} = x$, $\sqrt[3]{8} = 2$

2. $8x^3 - 27 = (2x - 3)(4x^2 + 6x + 9)$
$\sqrt[3]{8x^3} = 2x$, $\sqrt[3]{27} = 3$

You Try

1. $8x^3 + 125$
$\sqrt[3]{8x^3} = 2x$, $\sqrt[3]{125} = 5$
$(2x + 5)(4x^2 - 10x + 25)$

2. $54x^3 - 2 = 2(27x^3 - 1)$
$2\left(3x - \frac{1}{b}\right)\left(9x^2 + \frac{3x}{ab} + \frac{1}{b^2}\right)$

Summary
Summarize the lesson in your own words