Office Hours 10:00am-12:00pm Monday-Friday.

To contact me:

- Email: smizuno@tusd.net
- Text: (209) 597-8924
- Twitter: @scottmizuno
- Zoom video conferencing (look for the link on Schoology)

Assignment 4/27

Directions: Factor out a greatest common factor (if possible). If there isn't a greatest common factor, write "not factorable."

1. $4x^2 + 10x$
2. $10x^3 - 20x$
3. $-8x^5 + 24x^2$
4. $2x^2 + 10x - 18$
5. $6x - 5$
6. $7x^2 + 10x$
7. $-4x^3 + 22x$
8. $6x^2 + 10x - 18$
9. $-8x^3 - 16x^2 + 24x$
10. In your own words, explain how to find the greatest common factor of a polynomial.

Assignment 4/28

Directions: Factor each trinomial when $a = 1$. If it is not factorable, write "not factorable."

Notes:

- When $a = 1$, a factorable trinomial will factor into two binomials.
- Determine the two numbers that multiply to equal c and add to equal b

Example: $x^2 + 10x + 21$

$= (x + 3)(x + 7)$

1. $x^2 + 12x + 32$
2. $x^2 - 2x - 24$
3. $x^2 - 12x + 27$
4. $x^2 - 6x - 7$
5. $x^2 + x - 42$
6. $x^2 + 6x - 9$
7. $x^2 - 7x - 30$

Factor out a greatest common factor.

8. $10x^3 - 25x^2$
9. $24x^2 - 10x + 18$
10. $x^3 + 11x^2 + 20x$

Assignment 4/29

Directions: Factor the difference of two squares pattern. If it is not factorable, write "not factorable."

Notes: $a^2 - b^2 = (a + b)(a - b)$

For the polynomial to be the difference of two squares pattern,

- The polynomial must be a binomial
- It must be subtraction
- Both terms need to be perfect squares

Example: $4x^2 - 9$

$= (2x + 3)(2x - 3)$

1. $x^2 - 16$
2. $x^2 - 25$
3. $9x^2 - 16$
4. $25x^2 - 81$
5. $16x^2 + 1$
6. $36x^4 - 25$
7. $100x^2 - 27$
8. $49x^2 - 1$

Factor:

9. $8x^2 - 16x$
10. $x^2 - 10x - 11$

Assignment 4/30

Directions: Factor each trinomial when $a \neq 1$.

Notes: Use the five-step method to factor trinomials when $a \neq 1$

1. Multiply a and c and rewrite the trinomial
2. Find the two numbers that multiply to equal c and add to equal b
3. Divide each number by the leading coefficient
4. Simplify any fraction if possible.
5. If there is still a fraction after dividing, put the denominator of the fraction in front of the x

Example: $2x^2 + 9x + 9$

$x^2 + 9x + 18$

$(x + 6)(x + 3)$

$\left(x + \frac{6}{2}\right)\left(x + \frac{3}{2}\right)$

$(x + 3)\left(x + \frac{3}{2}\right)$

$(x + 3)(2x + 3)$

1. $3x^2 + 12x + 8$
2. $4x^2 + 8x + 3$
3. $5x^2 + 21x + 4$
4. $6x^2 - 5x - 4$
5. $8x^2 - 18x - 5$

Assignment 5/1

Directions: Factor each polynomial completely.

Notes:

- Throughout this week, you've factored in multiple ways using the method that I've explicitly told you to use. Now, you need to determine what method to use on your own.
- Your first step is to always factor out a greatest common factor if you can.
- After factoring once, look at what you have left over to see if that too can be factored.

1. $x^2 + 11x + 24$
2. $4x^2 - 9$
3. $4x^2 - 20x$
4. $2x^2 + 17x + 8$
5. $x^2 + 3x - 54$
6. $25x^2 - 1$
7. $x^3 + 12x^2 + 20x$
8. $8x^2 - 18$
9. $5x^2 - 9x - 2$
10. $3x^2 + 24x + 36$