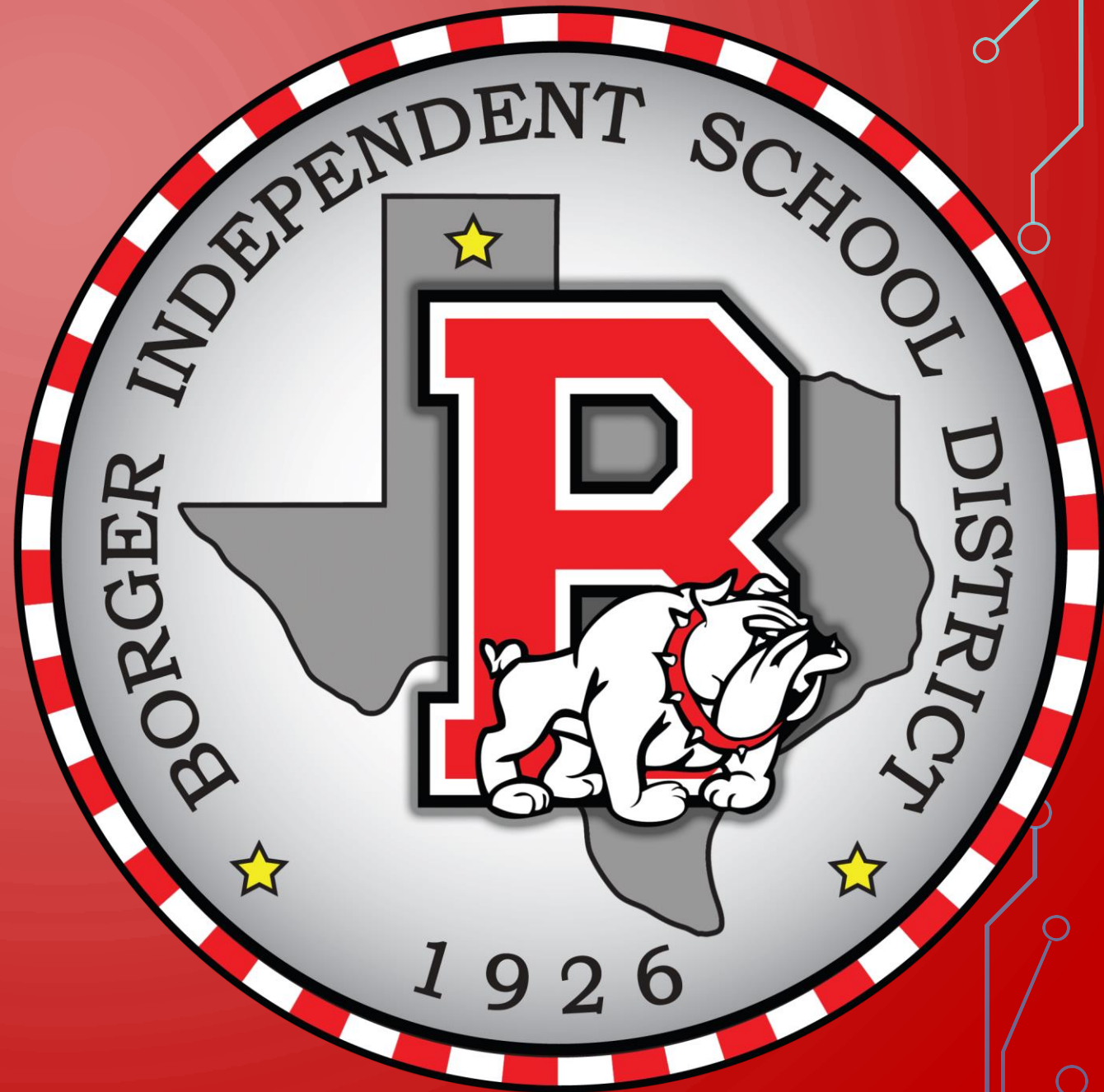
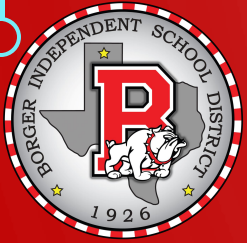


# BOARD NOTES

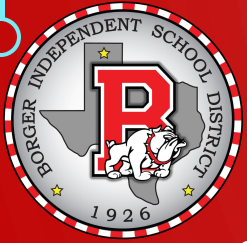
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2A.7 (B) add, subtract, and multiply polynomials;  
2A.7 (C) determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two;  
2A.7 (D) determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods;  
2A.7 (E) determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping;



We will be able to determine the linear factors of a polynomial.



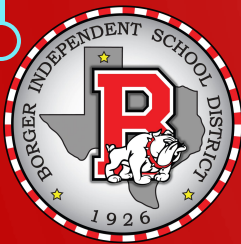
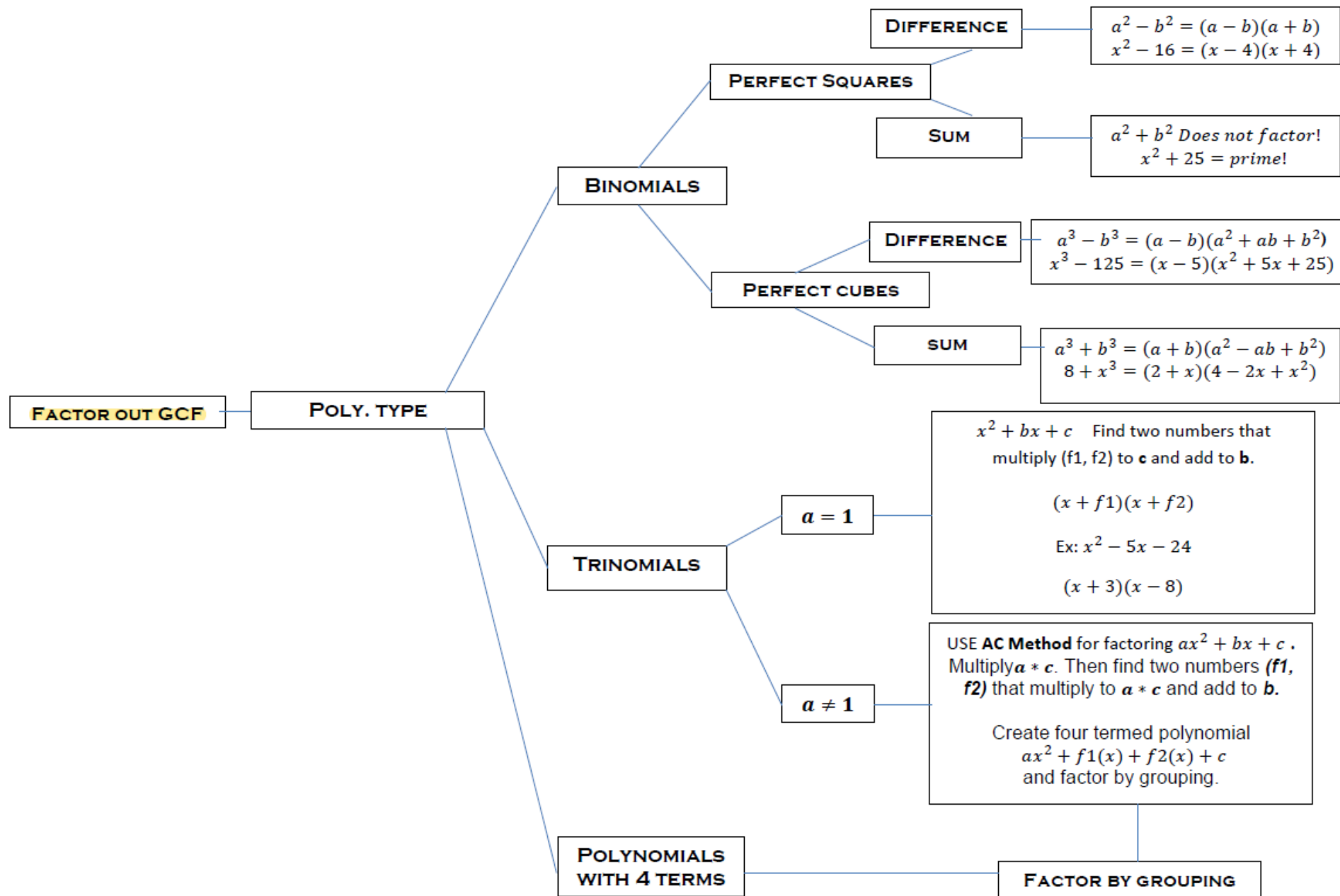
### WHAT WE NEED:

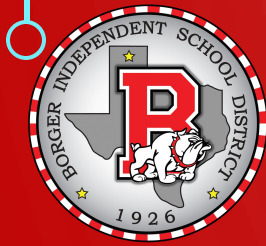
- Definition of polynomial
- Laws of Exponents
- Addition and Subtraction of Polys
- Multiplication of Polys
- Division of Polys

I WILL BE ABLE TO COMPLETE MY HOMEWORK GIVEN THE

- Polynomial

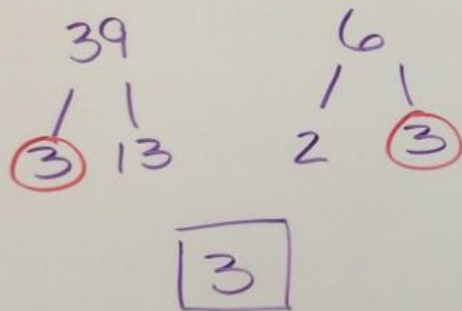
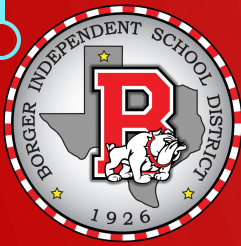
# FACTORIZING POLYNOMIALS FLOW CHART





# Greatest Common Factor

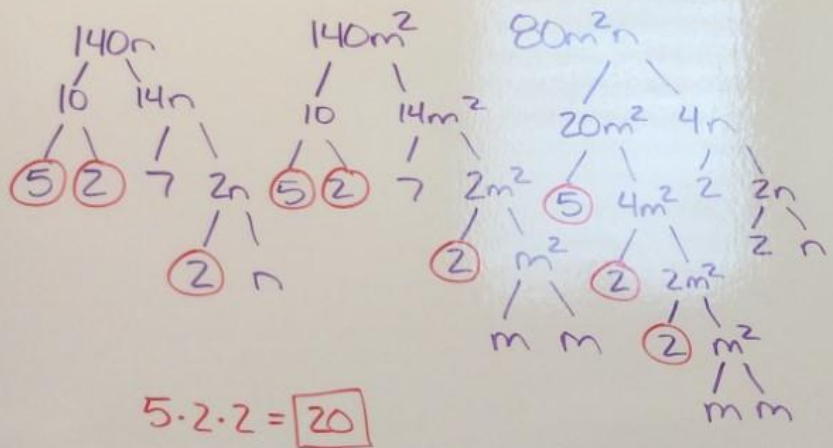
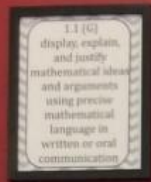
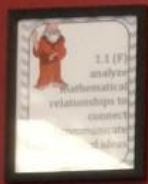
The **greatest common factor**, abbreviated GCF, is an expression of the highest degree that divides each term of the polynomial.



$$\underline{80x^3y^5z} \quad \underline{30x^2yz^3}$$

$$10x^2yz$$

$$20x^8y^2z^2 + 15x^5y^2z^2 + 35x^3y^3z^3$$
$$= 5x^3y^2z^2(4x^5z^2 + 3x^2z^2 + 7y^3z)$$



55 75  
 $\boxed{5}$

$-3x(2x-5)+11$

$3x^2+6x = \boxed{3x(x+2)}$

$25y^3-30y^2 = 5y^2(5y-6)$

$-4x^2+8x-6x^3 = -(6x^3-4x^2+8x)$   
 $= -2x(3x^2+2x-4)$

$-6x^2+15x+11 = -(6x^2-15x-11)$