

 

* Is there a **GCF**?
* Can you factor by the **DOTS** method?
* Is it a **TRINOMIAL**?
* Can you **FACTOR BY GROUPING**?
* Did your break down all of the factors into **PRIME** factors?
1. Factor each of the following completely:
2. $2ax+3a+4x+6$ b. $x^{3}- x^{2}-10x+10-3x^{2}+3x$ c. $6x^{2}+27x-15$

 ***\*please complete b using Factor by Grouping\****

d. $ 81x^{8}-1$



* What is another word to represent the **ROOTS** of a function?
* What **TYPE** of roots are there?
* How do you determine how **MANY** roots a function has?
* How do you **WRITE** a **FACTOR** if you know a **ROOT**?
1. Determine algebraically the roots of the function $f\left(x\right)= x^{3}- x^{2}-12x$.
2. Given the graph to the right,
	1. Write the zeros of the function.
	2. List out all of the factors of the function.

**A**

**B**

**-4**

* 1. Determine the sign of “a”.
	2. Write a possible equation for the function.



* What is **STANDARD FORM** of a quadratic equation?
* What are the **4** different methods for **SOLVING** a quadratic equation?
* When you solve for **“x”**, what does that value represent on the **GRAPH** of a quadratic function?
1. Solve the equation $3x^{2}-2x+2=0$. Express the answer in simplest $a+bi$ form.
2. Solve algebraically for all values of $x$: $\sqrt{2x+13}-5=x$



* What is **VERTEX** form of a parabola?
* What is the **EQUATION** of a parabola if you know the focus and directrix?
* What does **(h, k)** stand for?
* What does **p** stand for?
1. Given the equation $y= \frac{-1}{4}(x-3)^{2}+2$, determine
	1. The coordinates of the vertex.
	2. The value of “p”.
	3. If the parabola opens up or down.
	4. The equation of the directrix.
	5. The coordinates of the focus.
2. Determine an equation for the parabola with focus $(-3,6)$ and directrix $y=2$. (Use of the grid is optional.)



**\*\*\*Please be able to recall information from Unit 1, such as Operations with Polynomials, Operations with Complex Numbers, and Simplifying Radicals\*\*\***