If you need more practice with … here are some things to remember & practice!

Factoring

* Difference of Two Squares (#1 quiz 2.1)

*Remember…*

* Factors will be **conjugate pairs**
* Always try to factor *at least* twice

*Examples: Factor completely*

1. $4x²-9$ b) $81y^{8}-z^{4}$
* By Grouping (#2 quiz 2.1)

*Remember…*

* This occurs when we have **four** terms
* Write in standard form and group into two binomials
* Pull out a GCF from each and write as two *factors* (factors imply multiplication)

*Examples: Factor completely*

1. $x³-5x^{2}-16x+80$ b) $x³+3x²+x+3$

Completing the Square to Rearrange Formulas

* Circles (#3 quiz 2.1)

*Remember…*

* Group the terms by variable & complete the square **for each**
* Don’t forget to keep both sides of the equation balanced

*Examples: Write the following circles in center-radius form*

1. $x²+y²-16x+6y+53=0$ b) $4x²-24x+4y^{2}+72y=76$
* Vertex Form of a Parabola (#4 quiz 2.1)

*Remember…*

* Group the terms with variables & factor out **the leading coefficient**
* Complete the square for the parenthesis and remember to account for its negation on the outside of the parentheses

*Examples: Write the following parabolas in vertex form.*

1. $y=x²-6x-3$ b) $y=-2x^{2}-32x+89$

Focus & Directrix (#5 quiz 2.1)

*Remember…*

* $y=\frac{1}{4p}\left(x-h\right)^{2}+k$(h,k) = vertex
* Sketch the picture
* Vertex = ½ distance between focus & directrix
* p=distance from vertex to directrix or vertex to focus
* If it opens upside down, the leading coefficient is **negative**

*Examples:*

1. A parabola has a focus of $(6,6)$ and directrix of $y=4$. Write the equation of the parabola in standard form.
2. A parabola has a focus of $(2,1)$ and directrix of $y=5$. Write the equation of the parabola in standard form.