**Chapter 3 Solving Quadratic Equations**

* *A review is a brief summary of the chapter. It is never an acceptable substitute for learning and understanding the notes, homework and assignment through the entire chapter.*

**Know how to factor when a = 1, a > 1, difference of squares, and perfect squares. Always remember to factor any common factors out first.**

**e.g. 1**

Is x + 1 a factor of 5x2 + 9x +4

**e.g. 2**

Factor this quadratic with a function inside of 2(x - 6)2 + 10(x - 6) - 48

**Be able to determine which method(s) you could use for solving Quadratics.**

Factoring:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Squaring both sides:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Square Rooting Both Sides:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Completing the square:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Quadratic Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**e.g. 3**

**Solve the following quadratic equations**.

1. 6x2 – 5x – 4 = 0 b) 10x2 = -15x
2. 3x2 – 7 = 8 d) $\sqrt{6+x}+4=x$

e) $\left(x+2\right)^{2}-16=$0 f) x2 + 4x – 3 = 0

g)5x2 – 10x + 2 = 0 h)x2 – 2x – 7 = 0

I)$\frac{1}{2}x^{2}-\frac{5}{4}x=3$

There will be a 3 mark question asking you to derive the quadratic formula using the completing the square method.

**The Discriminant**

Be able to use the discriminant to determine how many solutions/roots a quadratic has. When I ask you to solve a quadratic, it is possible that there is no solution.

**e.g. 4**

Determine the values of k for which there are no roots. 2x2 + 6x – k = 0

Be ready to **explain** a couple of concepts such as the zero product property, how you can tell whether something is factorable, how determine how many roots(if any) a quadratic has, how to know which methods you can use to solve…..

There will be one or two questions from chapter 2.