***Quadratic Functions Review – Study Guide***

Quadratic Function – has an x2 and when graphed looks like a U or upside down U.

**To graph you need 3 things:**

1. Vertex (p,q)
2. X-intercepts ( y=0)
3. Y – intercepts (x=0)

**Vertex graphing form: y = a(x-p)2 + q**

* To find the vertex: pull ‘p’ and ‘q’ out of the equation. Remember to take out the opposite sign for ‘p’.
* To find the x-intercept: plug 0 into your ‘y’ spot, get the squared part by itself and square root both sides to solve.
* To find the y-intercept: Plug 0 into you ‘x’ spot, follow BEDMAS to solve.

**Standard Form: y = ax2 + bx + c**

* Vertex (p,q) use the formulas: p = $\frac{-b}{2a}$ and q = c – ap2
* To find the x-intercept, use the quadratic formula: x = $\frac{-b \pm \sqrt{b^{2}-4ac}}{2a}$
* To find the y –intercept, plug 0 into your x spots.

**Completing the square Steps:**

Examples: