Unit 4.1 – Graphing Quadratics

Name: _____

Standards:
I can…

- Identify and calculate the AOS and vertex of a quadratic.
- Graph quadratics in standard/vertex/intercept form.
- Identify the max & min of a quadratic & determine max/min based on the equation
- Describe what roots/x-intercepts/zeros are and how to find them.
- Use quadratics in application (ex: finding max height of ball, how long something was in the air, etc.)

Items in bold should be turned in to me or put in your binder.

_____video notes (2)

_____worksheet

_____book assignment(s)

_____extra video

_____graphing practice ws

_____ws 2

_____pre-mc

_____mastery check

Pre-MC:

Find the y-intercept, axis of symmetry, and vertex for each graph. Use this information to help you graph your function. (on graph paper)

1. $f(x) = -x^2 - 6x + 2$
2. $f(x) = 2x^2 - 2x + 1$
3. $f(x) = (x-1)^2 - 4$
4. $f(x) = -3(x+2)(x-5)$

5. What is the axis of symmetry?

6. From 4 feet above a swimming pool, Susan throws a ball upward with a velocity of 32 feet per second. The height $h(t)$ of the ball t seconds after Susan throws it is given by $h(t) = -16t^2 + 32t + 4$. For $t \geq 0$, find the maximum height reached by the ball and the time that this height is reached.

7. How can you tell if a graph has a maximum or a minimum by looking at the equation?

8. How do you find that maximum or minimum?

9. The formula for throwing a baseball in the air is $h(t) = -16t^2+12t+40$ where h(t) is the height of the ball and t is the time. After how many seconds will the ball hit the ground?