Week 6 Homework Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

F.2: Sketch graphs showing key features

F.3: Graph quadratic functions and show intercepts, maxima, minima, and symmetry.

1. The height, h(t), in meters, of a falling object can be represented by the formula where d is the initial height, in meters, of the following object above the ground, and t is the time, in seconds, the object has been falling. If an objective is dropped from a height of 147 meters, how long does it take the object to hit the ground?
2. The height of a baseball thrown into the air can be represented by the equation where h(t) is the height of the ball in feet after t seconds.
3. Find h(0) and give the real-world meaning for this value.
4. How high is the ball when t = 3 seconds?
5. When is the ball 30 feet above the ground?
6. When does the ball hit the ground?

Please graph the following using a graphing calculator and finding the vertex and any x-intercepts. Please round to one decimal place except if you get an answer like 4.99999999, then round to the nearest whole number.

1. F(x) = -x² - 3x + 2 3. F(x) = 2(x + 4)² + 6
2. F(X)= 3x² + x – 3 4. F(x) = ½ (x – 2)²