Name:_____ Date:_____

Quadratic Review! Quadratic Applications

1) Hank is shooting rockets off from his dock on Lake Allatoona. The path of the rocket can be modeled by the equation $h(t) = -16t^2 + 160t + 4$.

   a. What is the highest that the rocket will reach?

   b. How long will it take for the rocket to reach its highest point?

   c. How high is the dock above the surface of the water?

   d. How many seconds will it take before the rocket starts coming back down to the ground? How do you know?
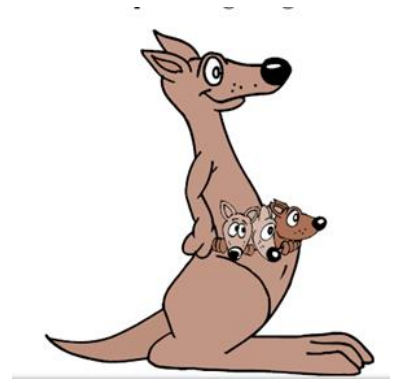
   e. How many seconds will it take before the rocket hits the ground? (Hint… it is a zero… so could you use the quadratic formula?)
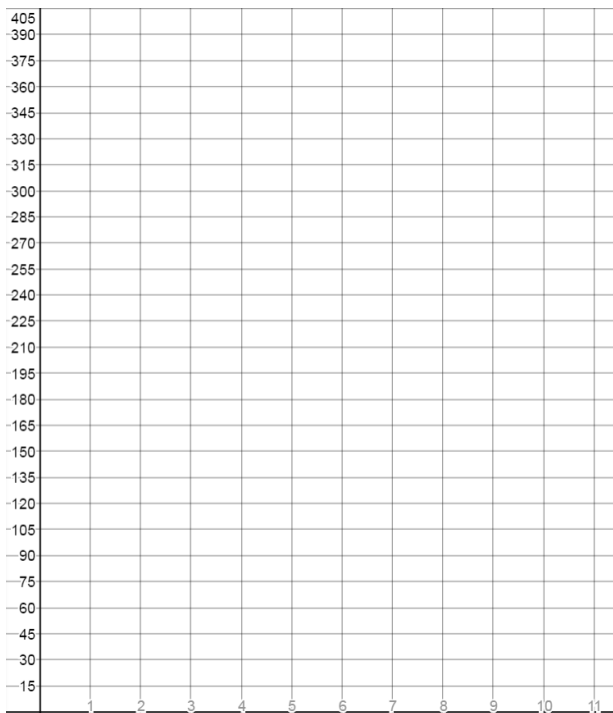
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2. A kangaroos jump can be modeled by a the quadratic function $y = -.0267x^2 + 0.8x$ where y represents how high the kangaroo can jump and x represents how far the kangaroo can jump

   a. What is the maximum height that the kangaroo can jump?

   b. How far will the kangaroo go in one jump?