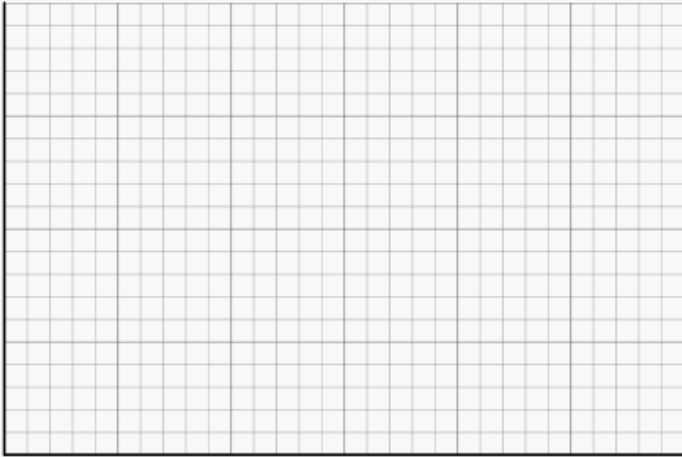


Real-World Applications – Creating Equations Day 2
Unit 2B: Quadratic Functions - Modeling

For each of the following:

- A. Write the equation that models the given context
- B. Identify the x-intercept(s) and tell what they mean
- C. Identify the y-intercept and tell what it means
- D. Identify the maxima/minima of the function and tell what it means
- E. Graph the function

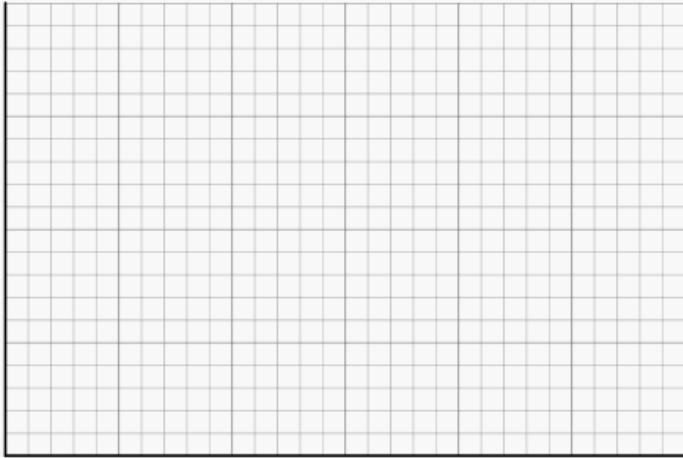
1. Bryson hits the ball with a baseball bat from 3 foot at a speed of 48 feet per second.



2. A daycare owner has some fencing that they want to put around what they are going to make into their playground area. One person suggested making the fence into a rectangle that was 200 foot by 50 foot. The owner knows that if they move the 200 foot side in some and then put that extra on the 50 foot side then they can maximize the area that they can have for the playground without purchasing more fencing.



3. A construction worker is on top of a building that he is roofing. The worker pulls a bunch of shingles off and throws them down to the trailer that they have set up for waste. The worker throws the shingles down from a height of 325 foot at 25 feet per second.



4. The NFL is selling tickets to the football games for \$75 per ticket and are selling 30,000 on average per game. The media tells them though that if they would reduce the price of their tickets by increments of \$5 they will gain 10,000 customers for every decrease.

