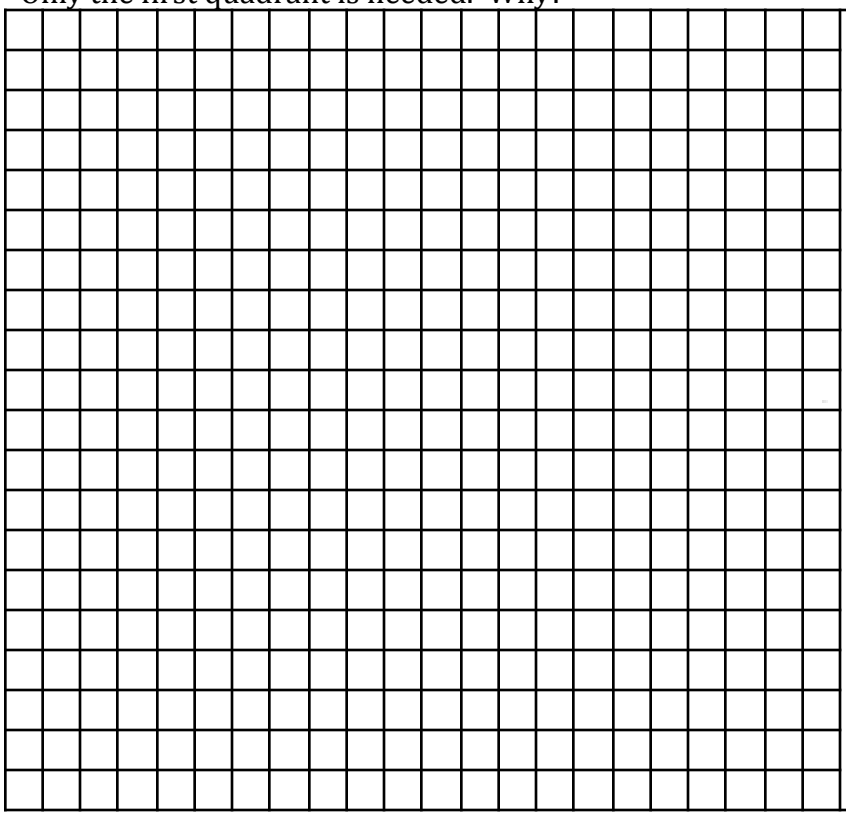
Name _____

Fill in the blanks to make a story. Then solve the math problems below. Graph the 2 functions. Hint: Only the first quadrant is needed. Why?



Say we throw a _____ (OBJECT A) out the 4th floor window to some_____ (GROUP OF PEOPLE) below. The equations that gives the height of the _____ (OBJECT A) in feet if x is time in seconds is $f(x) = -16x^2 + 48x + 64$. You realize that you did not include the _____ (OBJECT B) and take the elevator downstairs. The elevator is on the 6th floor so you run up to it (magically, it is the same second) and jump on. The equation that gives you the height of the elevator is $g(x) = 96 - 12x$.

Who gets to the ground first, you or the _____? ALL BLANKS ARE OBJECT A

These are the x intercepts of each function

Do you pass the _____ on the way up or on the way down? When? At what height?

These are the intersections of the two functions

Where do you/_____ start?

These are the y intercepts of each function

When does _____ reach highest point? What is its height at that point?

This is the vertex of the parabola

When is the _____ going up? When is it going down?

These are the increasing decreasing portions of the graph

What is the total time included in this problem? Distance?

These are the domains and ranges

https://www.desmos.com/calculator/pfmuazfrgx