Quadratics Test Review **Name:**

Calculator

1) The table shows the data that represents the height of a ball thrown by a shot-putter as it travels a distance of x meters.

Distance (m)	Height (m)
7	8
20	15
33	24
47	26
60	24
67	21

Define variables

x = distance y= height

a) Find a quadratic model f(x) for this data.

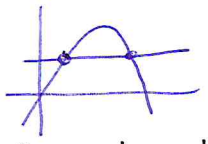
$y = -.011x^2 + 1.060x + .242$

b) Find the height of the ball if it travels a distance of 55 meters.

The shot put 24.938m off the ground at a distance of 55m.

[-10, 100] by [-10, 50] ← calc window

c) Find the distance the ball traveled when it's at a height of 20 meters.

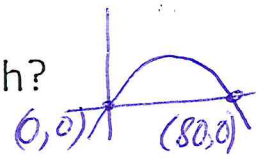
(used same window) 

The shot-put is 20m above ground twice - once at 25.413m and again at 70.634m

2) The shape of an arch can be modeled by the equation $h(x) = -.025x^2 + 2x$, where h(x) represents the height of the arch and x represents the distance from one end to the other. (round to 3 decimals)

Define variables. x= distance y = height

a) What is the width of the arch?



The arch is 80 feet wide

[-10, 100] by [0, 50]

b) What is the maximum height of the arch? The max ht of arch is 40 ft

c) What is the reasonable domain and range?

[0, 80] [0, 40]