

Part 4: Find the maximum value of the quadratic function. Make sure to show your work.

$$h(t) = -10t^2 + 685t + 22315$$

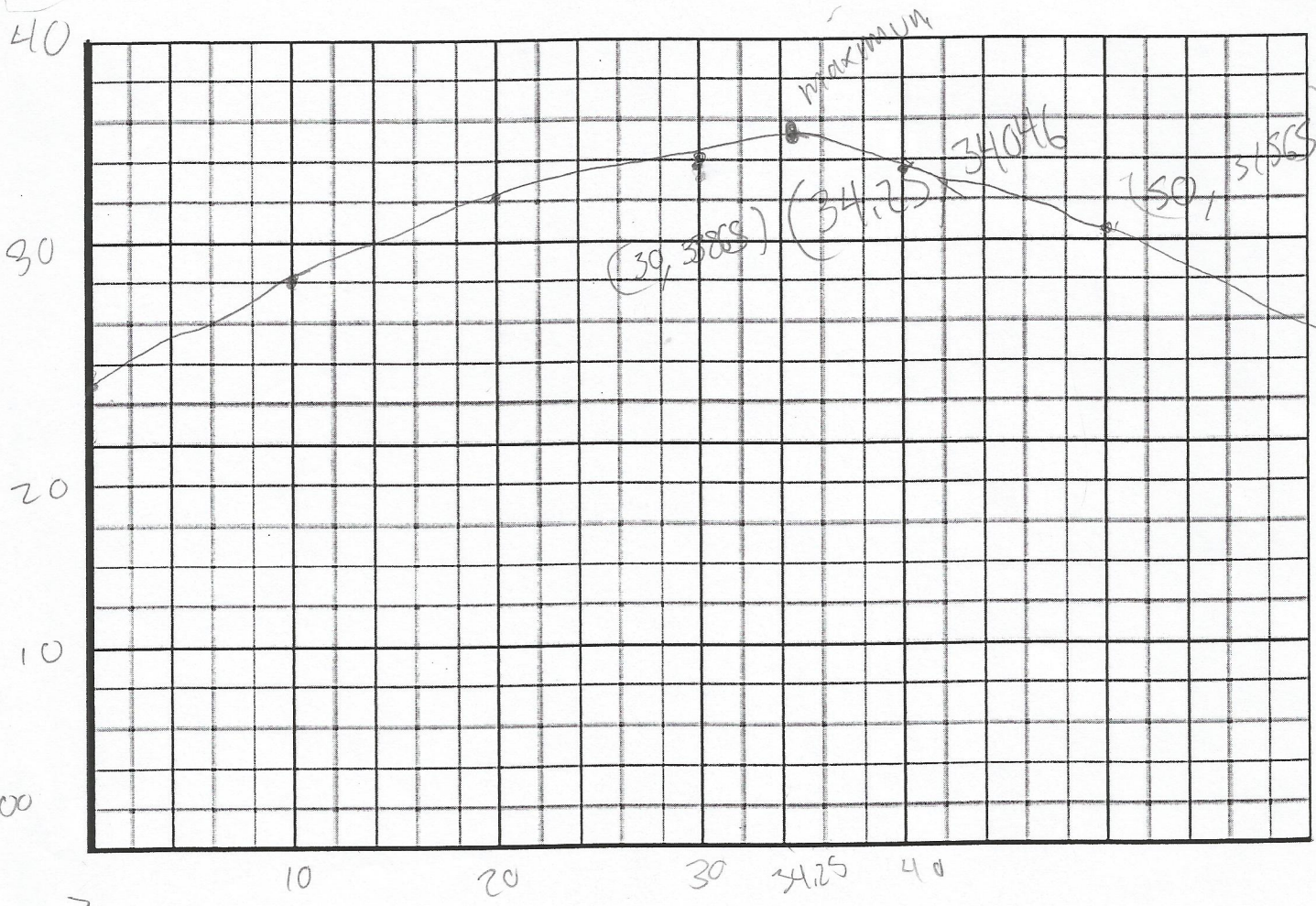
$$h = \frac{-685}{2(-10)} = \frac{-685}{-20} = 34.25$$

$$-10(34.25)^2 + 685(34.25) + 22315$$

$$-10(1173.0625) = -11730.625 + 23461.25$$

$a = -10 < 0$   
(h, k)

Part 5: Sketch the parabola. Label the given data plus the maximum point. A good way to start labeling your axes is to have the lower left point be (0, 20000)



Part 6: Reflective Writing.

Did this project change the way you think about how math can be applied to the real world? Write one paragraph stating what ideas changed and why. If this project did not change the way you think, write how this project gave further evidence to support your existing opinion about applying math. Be specific.

559 578  
552-554  
573

Yes it did because it showed me how to determine the maximum height of a projectile and also to show how long the rocket comet could stay in the ~~space~~ <sup>in</sup> ~~with~~ zero gravity when it is coming back down towards earth.

