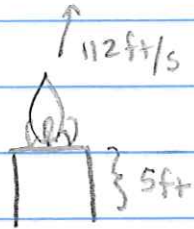


4.2.3



$$h(t) = -16t^2 + 112t + 5$$

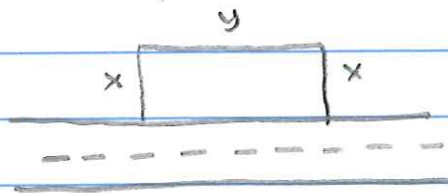
$$t = \frac{-112}{2(-16)} = \frac{-112}{-32} = 3.5 \text{ s}$$

It will take 3.5 seconds for the rocket to reach maximum height.

$$h(3.5) = -16(3.5)^2 + 112(3.5) + 5 = 201$$

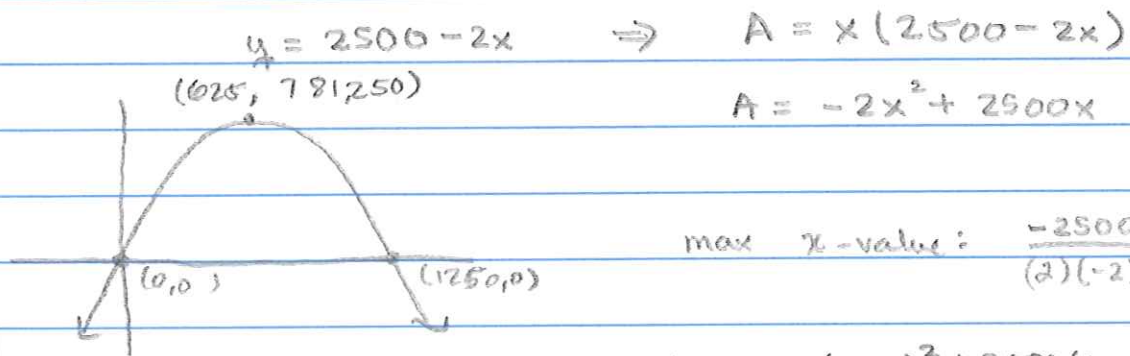
It will reach a maximum height of 201 feet.

4.2.22



$$2500 = 2x + y$$

$$A = xy$$



$$y\text{-value: } -2(625)^2 + 2500(625) = 781,250$$

The maximum area is 781,250 square feet.