(1) The height (in metres) of a rocket at a specific point in time after launch (in seconds), found by the formula
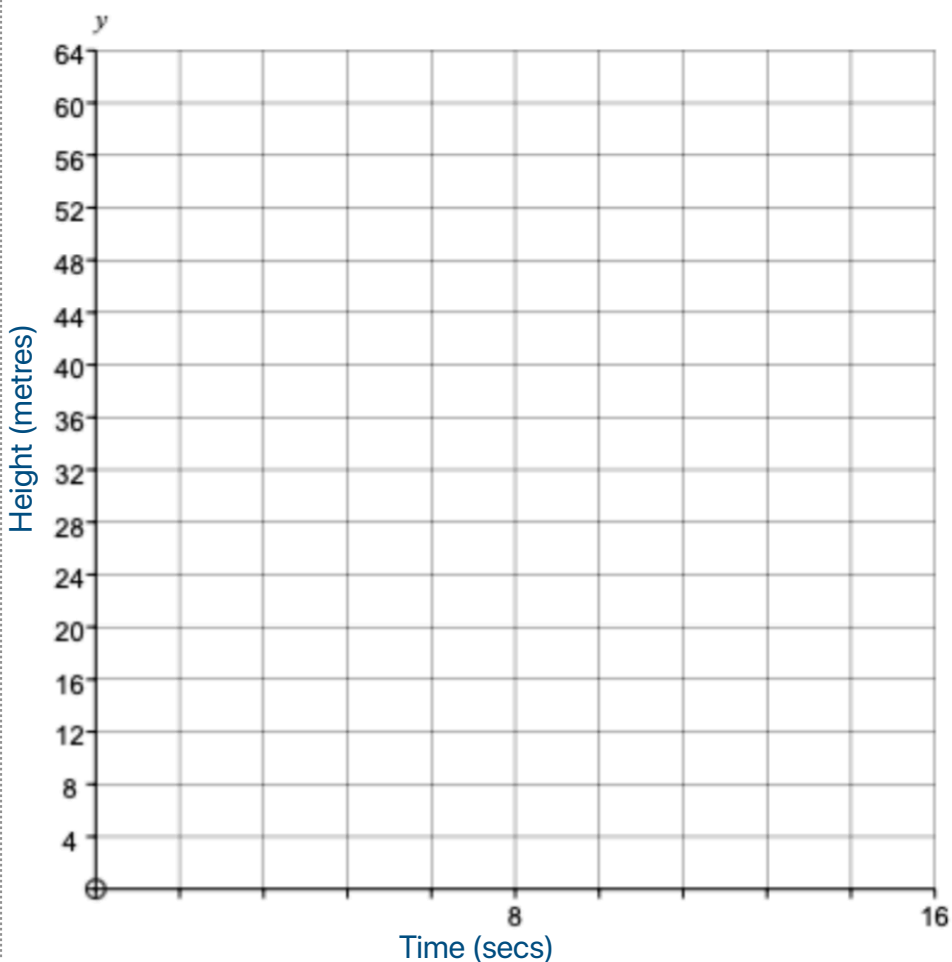
Height = 16 x time - time$^2$

(a) Complete the table below:

| Time (secs) | Height |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |
| 16 | |

(b) Describe any patterns you see in the height values?

(c) Calculate the height of the rocket before it is fired.

(d) Plot the points from your table on the grid below.



(f) Join the points together using a smooth curve.

(g) What happens to the rocket at 16 seconds?

(g) When is the rocket at its maximum height?

(h) What is the height of the rocket at 17 seconds?

What does this mean? Does it make sense in the context?