

... for an object in motion. Draw a velocity-time graph for the data in the chart. Remember to include a title for the graph labels for the axes and a line of best-fit. (8)

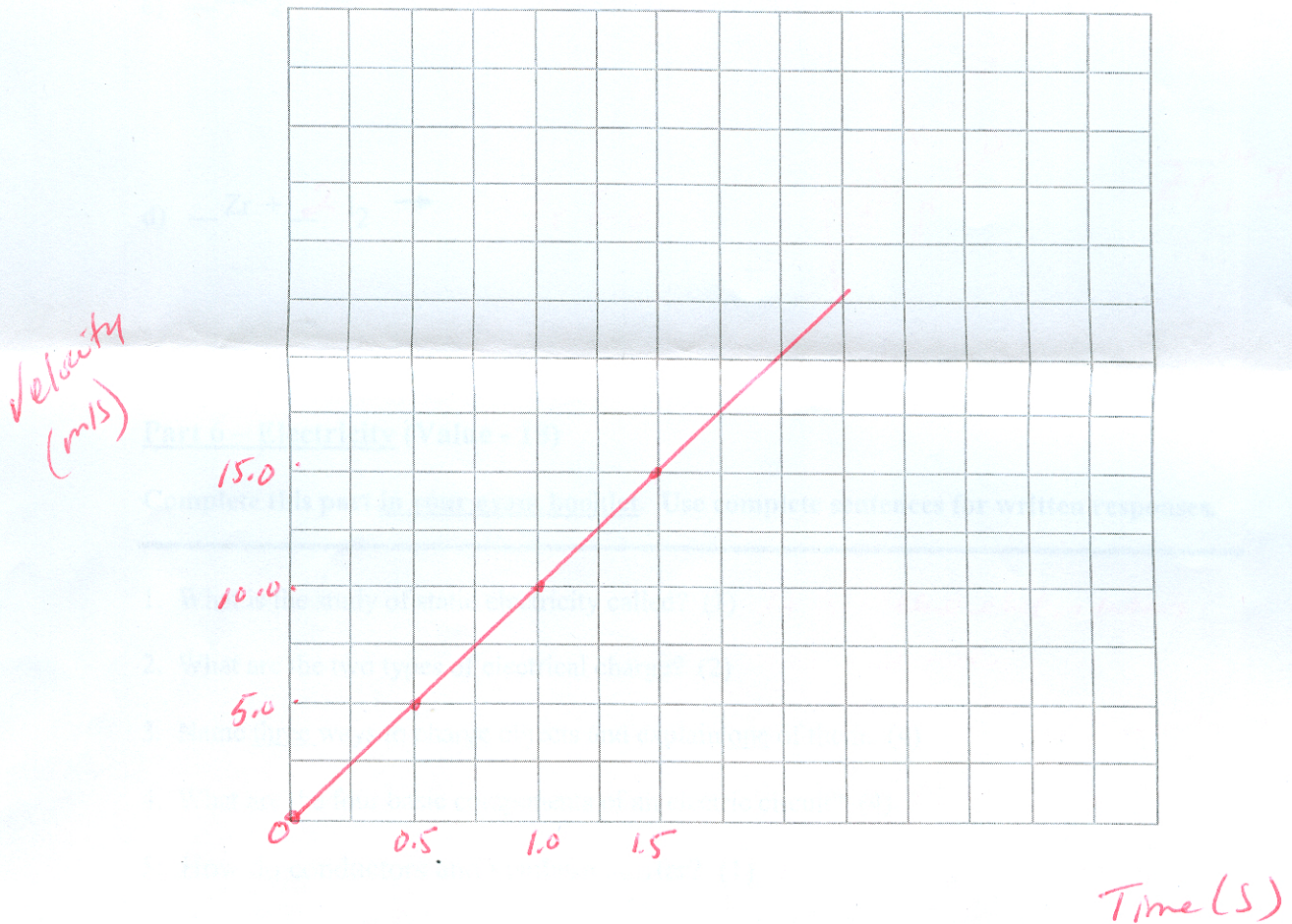
| Velocity (m/s) | Time (s) |
|----------------|----------|
| 0.0            | 0.0      |
| 5.0            | 0.5      |
| 10.0           | 1.0      |
| 15.0           | 1.5      |

(0.0, 0.0)  
 (0.5, 5.0)  
 (1.0, 10.0)  
 (1.5, 15.0)

2.0, 20.0

10.0 → 100 m/s

### Velocity-Time Graph



2. Using the data in the graph, calculate the acceleration of the object. Show your work. (3)

acc = slope  
 (0, 0)  
 (0.5, 5.0)

acc =  $\frac{5.0 - 0.0}{0.5 - 0}$   
 acc = 10 m/s<sup>2</sup>

3. How far did the object travel between t = 0.0 s and t = 10.0 s? Show your work. (3)



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→ extrapolate  
 $A = \frac{1}{2}bh$   
 $A = \frac{1}{2}(10.0)(100) = 500m.$