Exploring Accumulations of Changes

Polaris

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Problem: Consider this velocity-time graph, where the vertical axis is velocity in km/h, the horizontal axis is time in hours, find the distance the car travels

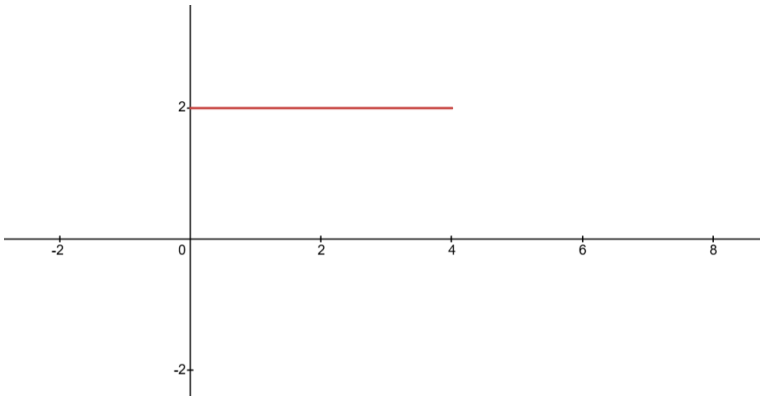

Figure 1: Graph of velocity-time

Solution: To tackle this problem, recall the definition of velocity:

$$v = \frac{d}{t}$$

From the graph, we know that $v = 2$ km/h and $t = 4$ h, so distance is $d = vt = 8$km.

Coincidentally, it is also the area under the graph highlighted in red.