

Answer on Question #69347-Physics-Other

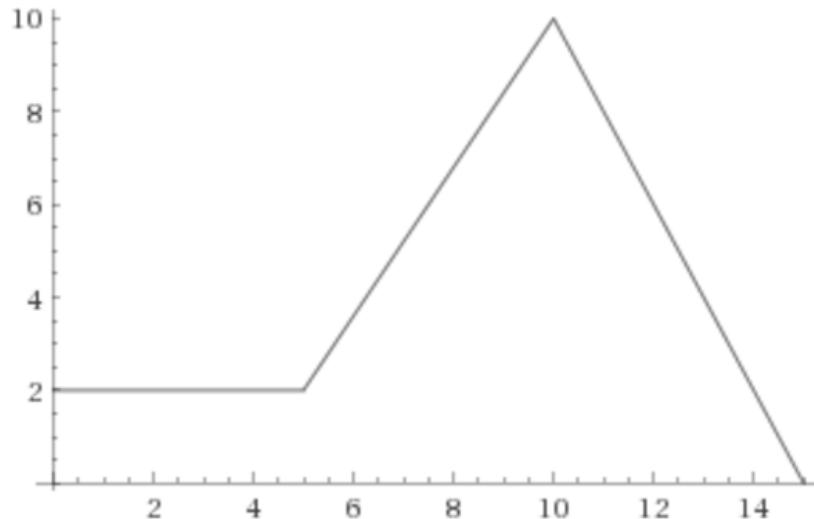
1. A body moves with a velocity of 2m/s for 5s, then its velocity uniformly increases to 10m/s in next 5s. there after its velocity begins to decrease at a uniform rate until it comes to rest after 5 s.

a) Plot a velocity-time graph for the motion of the body.

b) From the graph find the total distance moved, by the body after 5 s and 10 s.

Solution

a)



b)

$$d(5) = 2(5) = 10 \text{ m.}$$

$$d(10) = d(5) + \frac{1}{2}5(2 + 10) = 10 + \frac{1}{2}5(12) = 40 \text{ m.}$$

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