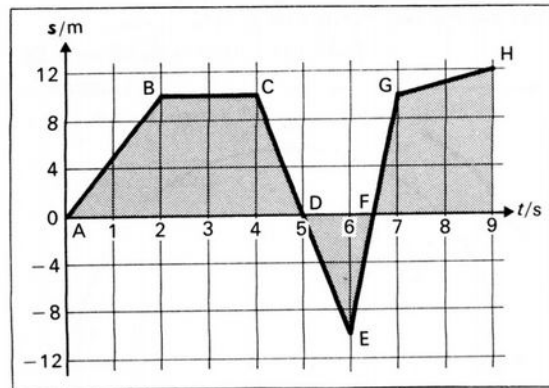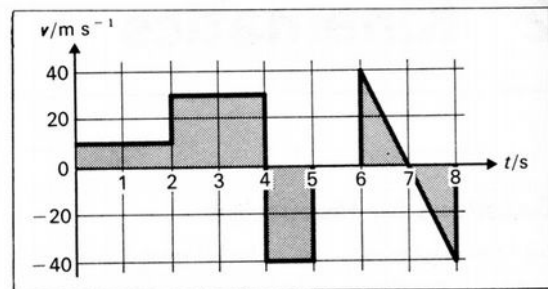# Motion graphs – Tutorial

1. Use the data from this displacement-time graph to plot a graph of velocity against time.

   *(5, 0, –10, +20, 1.0)*



2. Use the data from this velocity-time graph to plot a graph of displacement against time.

   *(20, 80, 40, 40, 60, 40)*



3. A cheetah and an antelope are both at rest and 100m apart. The cheetah starts to chase the antelope. The antelope takes 0.5s to react. It then accelerates uniformly for 2.0s to a speed of 25m/s and then maintains this speed. The graph shows the speed-time graph for the cheetah.
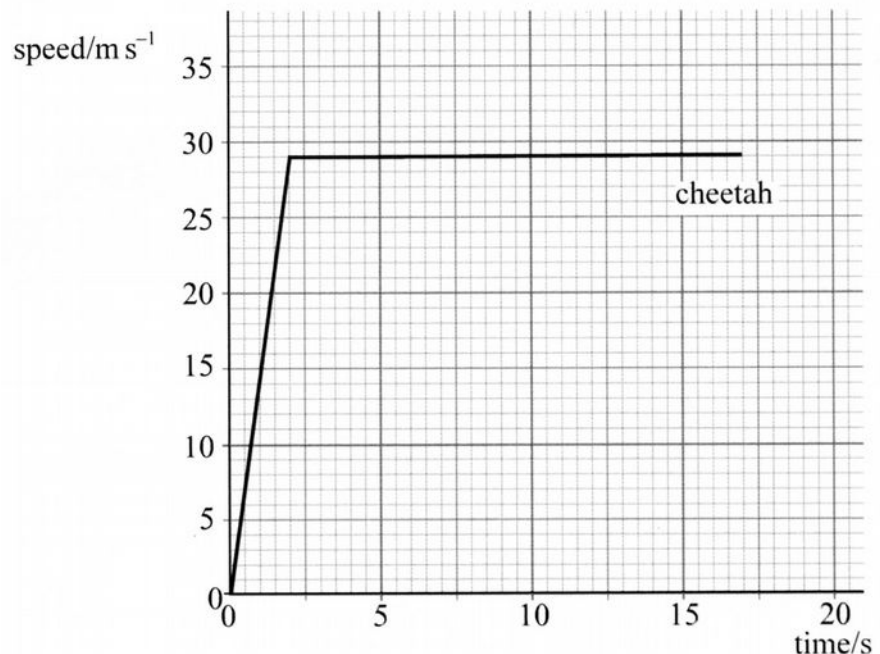


   (a) Plot on the same axes the speed-time graph for the antelope.

   (b) Calculate the distance covered by the antelope in the 17s after the cheetah started to run. *(388m)*

   (c) How far apart are the cheetah and the antelope after 17s? *(23m)*

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