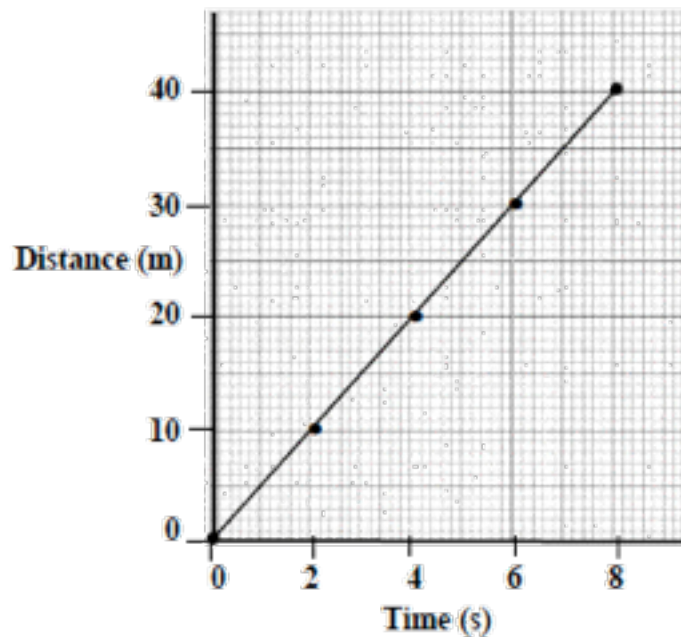
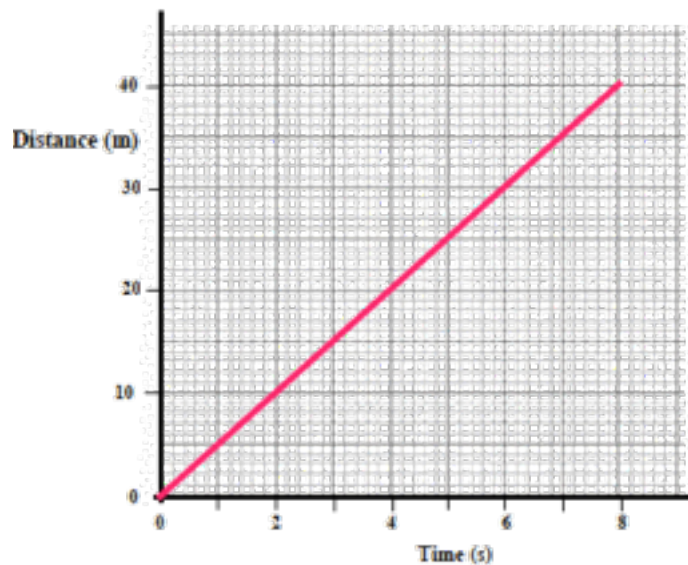


## Motion

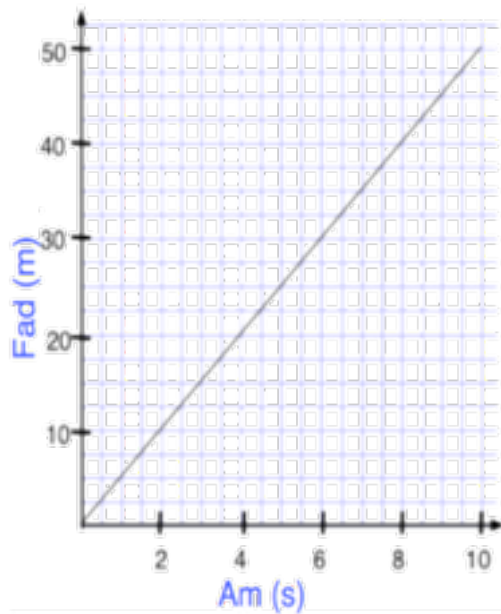
1. In 2009, Usain Bolt set a new world record for the 100 metres race with a time of 9.58 seconds. What was his average speed?
2. How long will it take an athlete whose average speed is 7.5 m/s to run 1500 metres?
3. A cyclist travelled along a straight track and its distance travelled was measured at different times. A graph of its motion was then drawn. What distance had it travelled after 5 seconds?



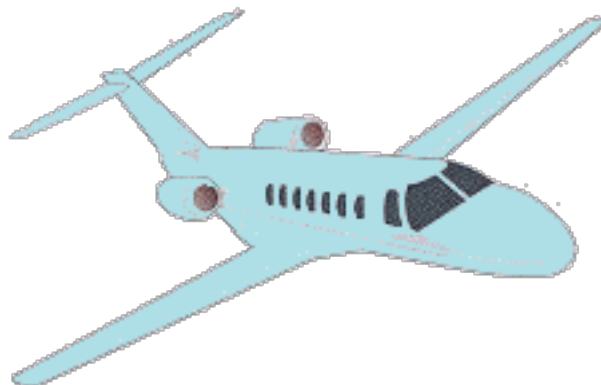
4. The graph shows the distance travelled by a cyclist in a time interval of 8 seconds. What is the average speed of the cyclist?



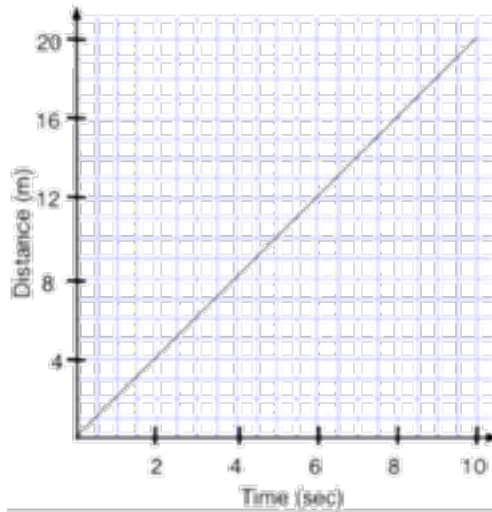
5. A cyclist travels 20 metres each second along a track for 4 seconds. Which one of the following statements is correct?
- His speed is 20 m/s and his distance travelled is 80 metres.
  - His speed is 80 m/s and his distance travelled is 80 metres.
  - His speed is 24 m/s and his distance travelled is 5 metres.
  - His speed is 5 m/s and his distance travelled is 5 metres.
6. A cyclist moves 20 metres along a track in 4 seconds. What is his speed?
7. A boy cycles to school each day. His home is 6 km from his school and it takes him on average 30 minutes to get there. What is the boy's average speed in km/h.
8. The motion of a cyclist is represented by the distance-time graph shown. Using the graph, how far has the cyclist travelled in 7 seconds?



9. An aircraft travelling at 800 km/h takes 4 hours to make a journey. How far has it travelled?



10. The unit of acceleration is
- a. sec                      b. m/s                      c. m                      d. m/s<sup>2</sup>
11. A cyclist moves uniformly 20 metres along a track in 4 seconds.  
What distance did he travel in the first second?
12. Using the distance-time graph shown, what is the distance travelled after 5 seconds?



13. Which one of the following statements is correct?
- a. speed = distance travelled  $\div$  time taken  
b. speed = distance travelled  $\times$  time taken  
c. speed = distance travelled + time taken  
d. speed = time  $\times$  distance travelled
14. The speed of an object may be determined from its distance-time graph.  
Using the graph shown, what is the speed of this object?

