

Interactive Example Candidate Responses

Paper 3 (May / June 2016), Question 1

Cambridge IGCSE™
Physics 0625



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1 Fig. 1.1 shows part of the speed-time graphs for a cyclist and for a runner.

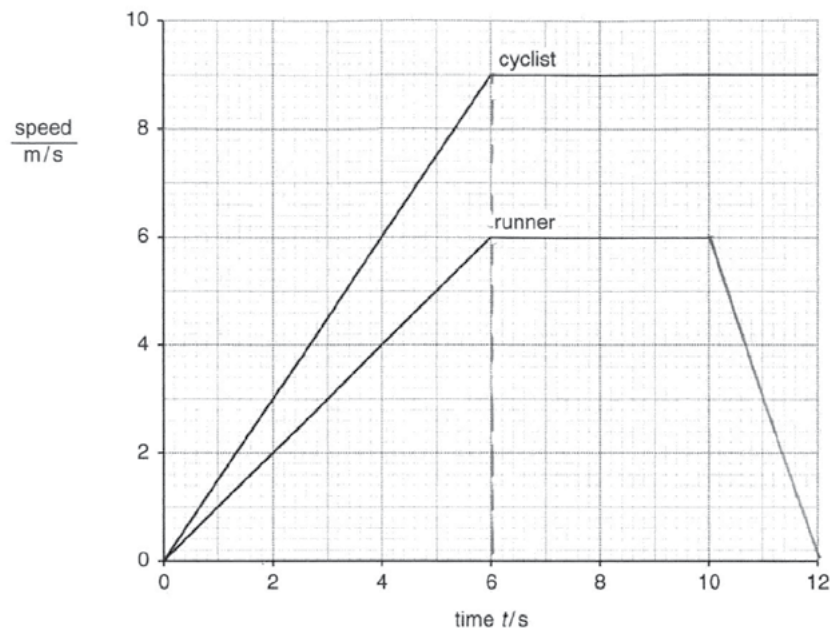


Fig. 1.1

- (a) Compare the motion of the cyclist and the runner during the first 6 seconds. Explain your answer.

The cyclist picks up speed leaving the runner at 6 m/s while the cyclist is 9 m/s with a gap of 3 m/s. [3]

- (b) Describe the motion of the cyclist between time $t = 6.0$ s and time $t = 12.0$ s.

its constant [1]

- (c) Calculate the total distance travelled by the cyclist between $t = 0$ and $t = 12.0$ s.

$$D = S \times T$$

$$\frac{1}{2} \times 6 \times 9 = 27$$

$$6 \times 9 = 54$$

$$81$$

distance travelled = 81 m [4]

Select page

Your Mark

1(a)

1(b)

1(c)

1(d)

Q1	Mark scheme
(a)	cyclist accelerating OR moving faster OR cyclist has higher speed both (cyclist and runner) accelerating cyclists gradient steeper OR acceleration values calculated
(b)	Constant OR steady OR uniform (speed or motion)
(c)	indication of an area calculated $6 \times 9 = 54(\text{m})$ $\frac{1}{2} (6 \times 9) = 27(\text{m})$ <u>81(m)</u>
(d)	horizontal line finishes at 10 seconds straight line to time zero in two seconds

- (d) After the first 6.0 seconds, the runner moves at constant speed for 4.0 seconds. He then slows down uniformly and stops in a further 2.0 seconds.

On Fig. 1.1, complete the graph for the runner's motion.

[2]

[Total: 10]

Select
page

Your
Mark

1(a)

1(b)

1(c)

1(d)

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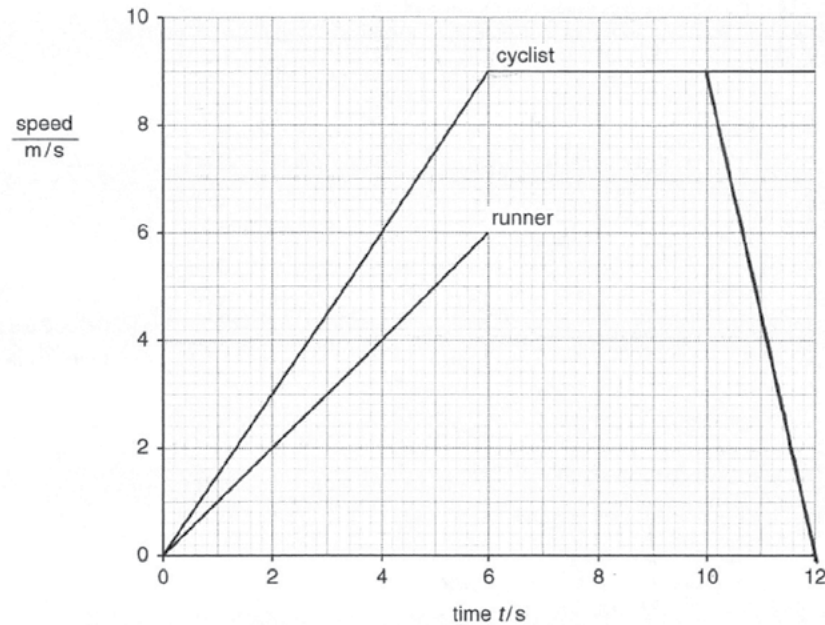


Fig. 1.1

- (a) Compare the motion of the cyclist and the runner during the first 6 seconds. Explain your answer.

During the first 6 seconds the cyclist was having more speed than the runner and that is because a cyclist is machine and the runner is human so there is a huge difference between them. [3]

- (b) Describe the motion of the cyclist between time $t = 6.0$ s and time $t = 12.0$ s.

9 m/s and it moves in constant speed. [1]

- (c) Calculate the total distance travelled by the cyclist between $t = 0$ and $t = 12.0$ s.

$$\begin{aligned} \text{Total distance} &= \text{Total speed} \times \text{Total time} \\ &= 9 \times 12 = 108 \text{ m} \end{aligned}$$

distance travelled = 108 m [4]

Your
Mark

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