

Speed, Distance & Time

Difficulty: Easy

Question Paper 5

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Algebra and graphs
Sub-Topic	Speed, Distance & Time
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 5

Time allowed: 36 minutes

Score: /28

Percentage: /100

Grade Boundaries:

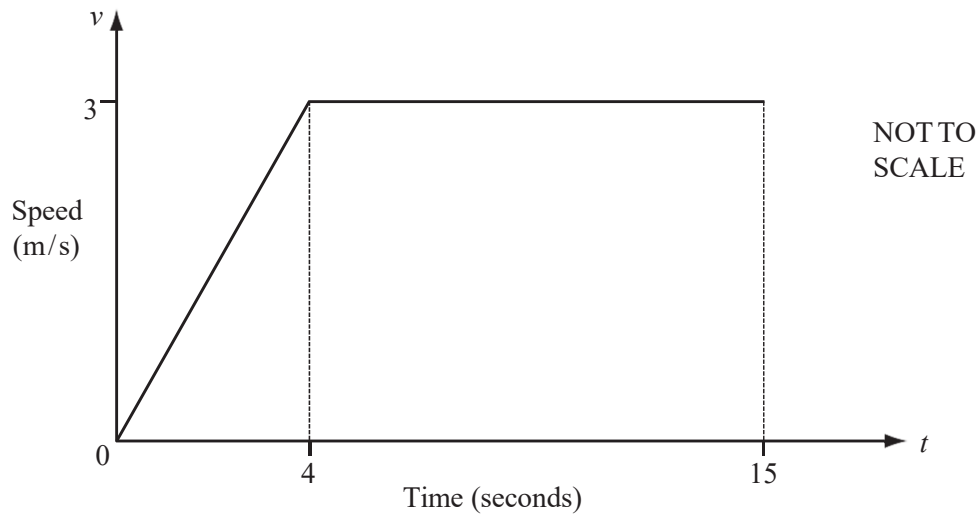
CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

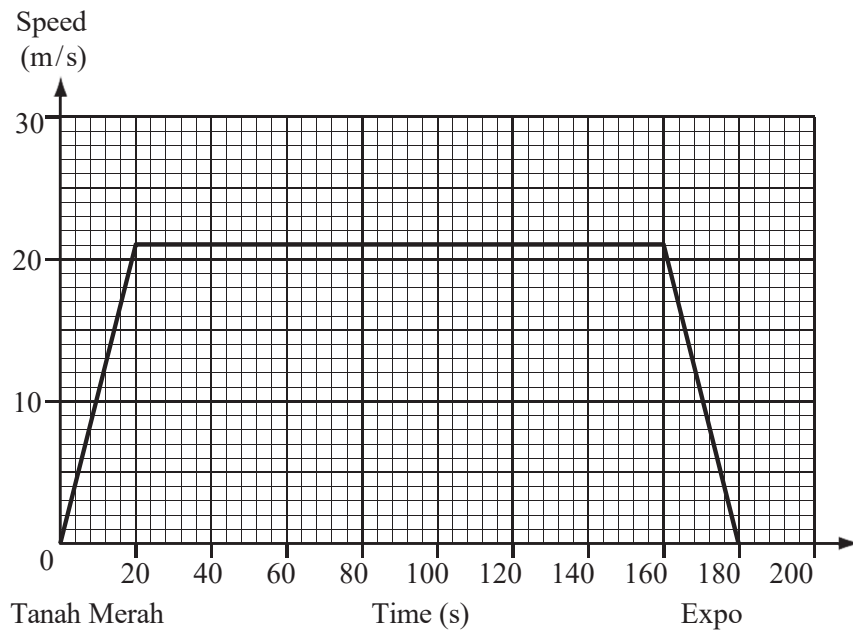


The diagram shows the speed-time graph for 15 seconds of the journey of a cyclist.

(a) Calculate the acceleration of the cyclist during the first 4 seconds. [1]

(b) Calculate the average speed for the first 15 seconds. [3]

Question 2



The graph shows the train journey between Tanah Merah and Expo in Singapore.

Work out

(a) the acceleration of the train when it leaves Tanah Merah,

[2]

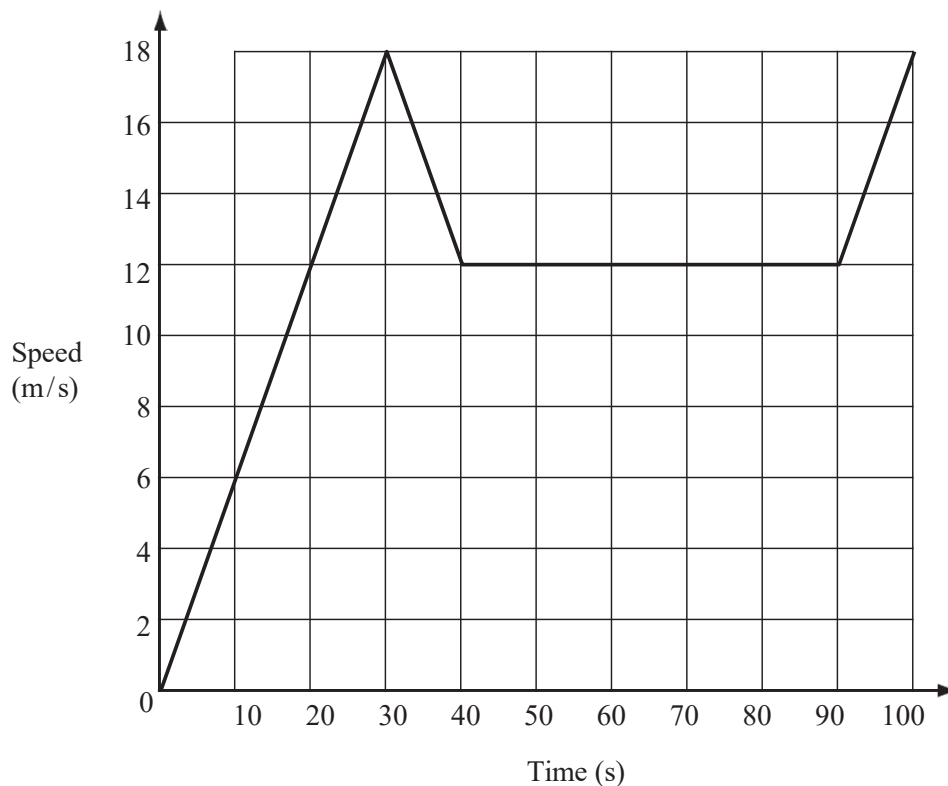
(b) the distance between Tanah Merah and Expo,

[3]

(c) the average speed of the train for the journey.

[1]

Question 3



The diagram shows part of a journey by a truck.

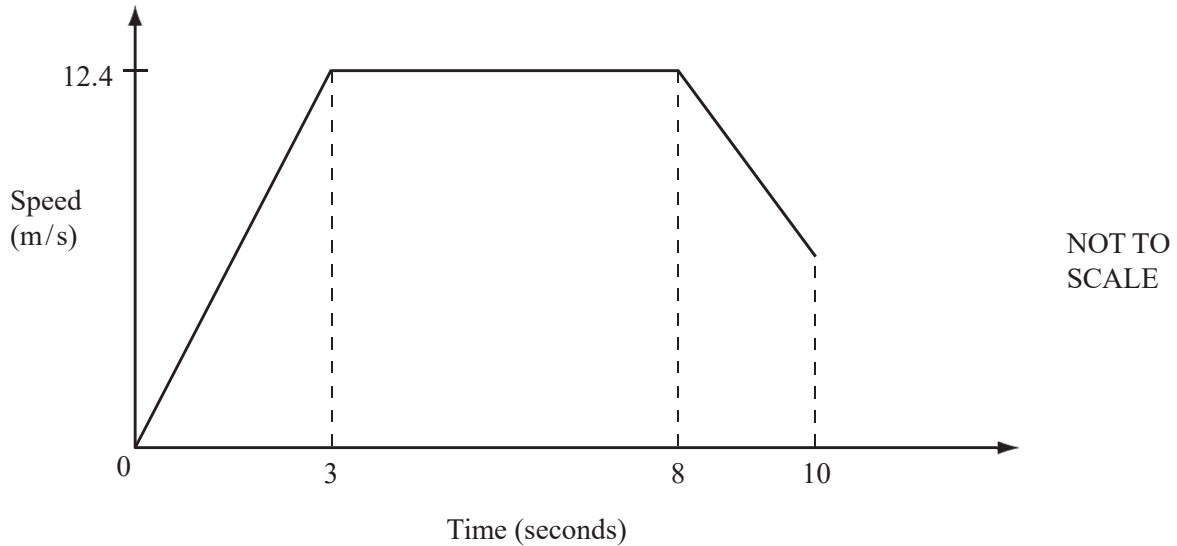
- (a) The truck accelerates from rest to 18 m/s in 30 seconds.
Calculate the acceleration of the truck.

[1]

- (b) The truck then slows down in 10 seconds for some road works and travels through the road works at 12 m/s.
At the end of the road works it accelerates back to a speed of 18 m/s in 10 seconds.
Find the total distance travelled by the truck in the 100 seconds.

[3]

Question 4



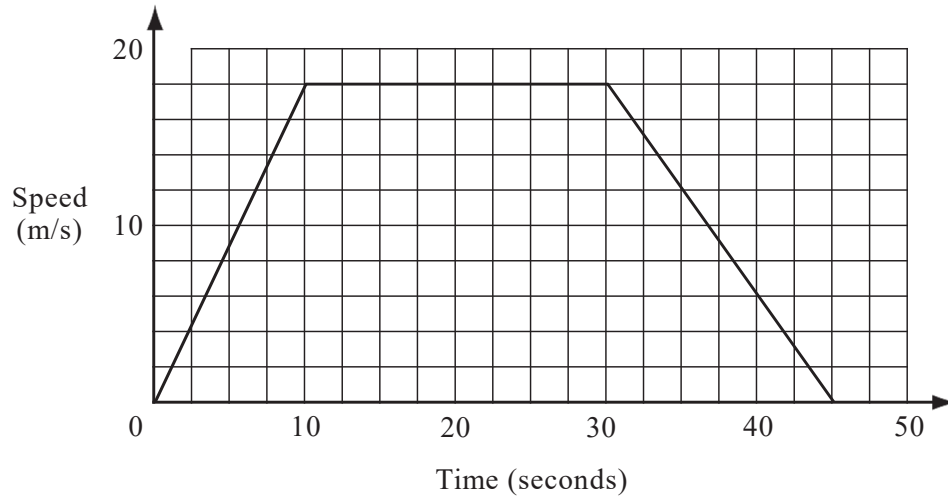
An athlete, in a race, accelerates to a speed of 12.4 metres per second in 3 seconds. He runs at this speed for the next 5 seconds and slows down over the last 2 seconds as shown in the speed-time graph above. He crosses the finish line after 10 seconds. The total distance covered is 100 m.

(a) Calculate the distance he runs in the first 8 seconds. [2]

(b) Calculate his speed when he crosses the finish line. [2]

Question 5

A cyclist is training for a competition and the graph shows one part of the training.

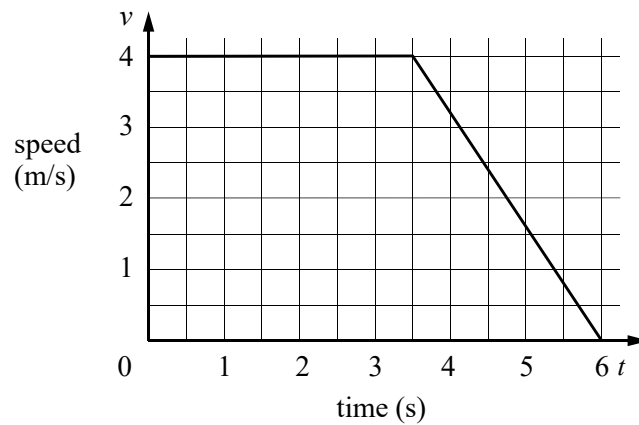


(a) Calculate the acceleration during the first 10 seconds. [2]

(b) Calculate the distance travelled in the first 30 seconds. [2]

(c) Calculate the average speed for the entire 45 seconds. [3]

Question 6



Ameni is cycling at 4 metres per second.
After 3.5 seconds she starts to decelerate and after a further 2.5 seconds she stops. The diagram shows the speed-time graph for Ameni.
Calculate

(a) the constant deceleration,

[1]

(b) the total distance travelled during the 6 seconds.

[2]