Average Speed Questions

MCQ Question 1

View this Question Online >

A man travels from A to B at a speed of 36 km/hr in 74 minutes and he travels a distance from B to C with a speed of 45 km/hr in 111 minutes. Find the average speed of whole journey.

1. 41.4 km/hr
2. 39.8 km/hr
3. 40.8 km/hr
4. 36.2 km/hr

Answer (Detailed Solution Below)

Option 1 : 41.4 km/hr

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Average Speed MCQ Question 1 Detailed Solution

Given:

A man travels from A to B at a speed of 36 km/hr in 74 minutes and he travels a distance from B to C with a speed of 45 km/hr in 111 minutes.

Formula used:

Average speed = Total distance/Total time taken

Calculation:

Ratio of time taken = 74 : 111

Time = 2 : 3

Average Speed = $\frac{36 \times 2 + 45 \times 3}{2 + 3}$

Average Speed = 207/5

Average Speed = 41.4 km/hr

∴ The average speed of whole journey is 41.4 km/h

MCQ Question 2 View this Question Online >

Two trains, X and Y, travel from A to B at average speeds of 80 km/hr and 90 km/hr respectively. If X takes an hour more than Y for the journey, then the distance between A and B is _____.

1. 360 km
2. 720 km
3. 540 km
4. 630 km

Answer (Detailed Solution Below)

Option 2 : 720 km

Average Speed MCQ Question 2 Detailed Solution

Given:

Two trains, X and Y, travel from A to B at average speeds of 80 km/hr and 90 km/hr respectively.

Formula:

Speed = distance/time

Calculation:

Let distance be x km

According to the question

x/80 − x/90 = 1

⇒ (9x − 8x)/720 = 1

⇒ x = 720 km

MCQ Question 3

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A car covers a distance of 48 km at a speed of 40 km/h and another 52 km with a speed of 65 km/h. What is the average speed of the car (in km/h) for the total distance covered?

1. 52
2. 50
3. 52.5
4. 53

Answer (Detailed Solution Below)

Option 2 : 50

Average Speed MCQ Question 3 Detailed Solution

Given:

$Speed_1$ = 40 km/h, $Distance_1$ = 48 km

$Speed_2$ = 65 km/h, $Distance_2$ = 52 km

Formula used:

Time = Distance/ Speed

Average Speed = Total Distance/ Total Time

Calculation:

Total Distance traveled = 48 km + 52 km

⇒ 100 km

Total Time = 48 km/ 40 km/h + 52 km/ 65 km/h

⇒ 6/5 + 4/5 = 2 hours

Average Speed = 100 km/ 2 hours

∴ The required Speed = 50 km/h

MCQ Question 4

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Ram covered 60 km in a bus in 50 minute, after deboarding the bus, he took rest for 5 min. There after he took a taxi to his home 30 km away and reached in 20 min. find his average speed in km/h.

1. 72
2. 60
3. 84
4. 64

Answer (Detailed Solution Below)

Option 1 : 72

Average Speed MCQ Question 4 Detailed Solution

GIVEN:

Ram covered 60 km in a bus in 50 min. after deboarding the bus, he took rest for 5 min. There after he took a taxi to his home 30 km away and reached in 20 min.

CONCEPT:

Basic concept of time speed and distance.

FORMULA USED:

Average speed = Total distance/Total time taken

CALCULATION:

Total distance = 60 + 30 = 90 km

Total time taken = 50 + 5 + 20 = 75 min = 5/4 hr

Hence,

Average speed = 90/(5/4) = 72 km/h

MCQ Question 5 View this Question Online >

One person travels on through the sides of an equilateral triangle at a speed of 12 kmph 24 kmph, and 8 kmph, Find the average speed of it. (In kmph)

1. 14
2. 13
3. 12
4. 11

Answer (Detailed Solution Below)

Option 3 : 12

Average Speed MCQ Question 5 Detailed Solution

Given:

The speed of the man is 12 km/h, 24 km/h and 8 km/h

Concept Used:

Average speed = total distance/total time

The sides of an equilateral triangle are equal.

Calculation:

Let, the side of the triangle be x km.

As we know,

Time to cover x km distance at a speed of 12 km/hr = x/12 hrs

Time to cover x km distance at a speed of 24 km/hr = x/24 hrs

Time to cover x km distance at a speed of 8 km/hr = x/8 hrs

Total distance covered by the man = (x + x + x) = 3x

Total time to cover the distance (x/12 + x/24 + x/8)

∴ Average speed $= \frac{3x}{\frac{x}{24}+\frac{x}{12}+\frac{x}{8}}$

$\Rightarrow \frac{3x}{\frac{x+2x+3x}{24}}$

⇒ 3x / (6x/24)

⇒ 1/2 × 24 = 12 kmph

∴ The average speed of the person is 12 km/h.

MCQ Question 6

View this Question Online >

A person covers a certain distance with 8 km/hr, he gets late by 12 minutes. If he covers the same distance with 12 km/hr, then he gets 2 minutes late only. Find the time in which he must reach the destination so that he is not late.

1. 18 minutes
2. 20 minutes
3. 30 minutes
4. 28 minutes

Answer (Detailed Solution Below)

Option 1 : 18 minutes

Average Speed MCQ Question 6 Detailed Solution

Suppose the distance to be covered = x km

$\therefore x/8 - 12/60 = x/12 - 2/60$

$\Rightarrow x/8 - x/12 = 10/60$

$\Rightarrow x = 4$

$\therefore$ Scheduled time = $4/8 - 12/60 = 0.3$ hours = 18 minutes

MCQ Question 7 View this Question Online >

A travels 15 km with a speed of 30 km/h. He travels another 25 km with a speed of 10 km/h. What is his average speed for the entire journey?

1. 40/3 km/h
2. 80/3 km/h
3. 20 km/h
4. 12 km/h

Answer (Detailed Solution Below)

Option 1 : 40/3 km/h

Average Speed MCQ Question 7 Detailed Solution

Given

$Distance_1$ = 15 km, $Speed_1$ = 30 km/h

$Distance_2$ = 25 km, $Speed_2$ = 10 km/h

Formula Used:

Speed = Distance/Time

Average speed = Total distance/Total time

Calculation:

According to the question,

Total distance = 15 + 25 = 40 km

Total time = 15/30 + 25/10

⇒ (15 + 75)/30 = 90/30 = 3 hours

Average speed = 40/3 km/h

Average speed = 40/3 km/h

∴ The average speed for the entire journey is 40/3 km/h.

Alternate Method

Given

D_1 = 15 km, S_1 = 30 km/h

D_2 = 25 km, S_2 = 10 km/h

Formula Used:

Average speed = $\frac{D_1+D_2}{\frac{D_1}{S_1}+\frac{D_2}{S_2}}$

Calculation:

Average speed for the entire journey = $\frac{15+25}{\frac{15}{30}+\frac{25}{10}}$

$= \frac{40}{0.5+2.5}$

$= \frac{40}{3}\ km/h$

MCQ Question 8 View this Question Online >

If a train departs from Delhi at 6: 50 a.m. and reaches Dehradun at 1: 00 p.m. and then travels back to Delhi in 5 hrs 20 minutes. Calculate the distance (in km) between Delhi and Dehradun if average speed of train is 120 km/hr?

1. 1020
2. 1380
3. 960

4. 690

Answer (Detailed Solution Below)

Option 4 : 690

Average Speed MCQ Question 8 Detailed Solution

Let the total distance between Delhi and Dehradun be d, then

Total distance covered by train is 2d

Time taken by train from Delhi to Dehradun = 6 hrs 10 minutes

Time taken by train from Dehradun to Delhi = 5 hrs 20 minutes

Total time taken = 6 hrs 10 minutes + 5 hours 20 minutes

⇒ Total time taken = 11 hours 30 minutes = 11.5 hours

Average Speed = Total Distance/Total Time

120 = 2d/11.5

⇒ d = (120 × 11.5)/2

⇒ d = 690 km

∴ Distance between two cities = **690** km

MCQ Question 9 View this Question Online >

Neeraj covers two distances of 10 km and 20 km in 1 hour and 5 hours respectively. What will be the average speed of Neeraj for the whole journey?

1. 4 km/hour
2. 7 km/hour
3. 5 km/hour
4. 6 km/hour

Answer (Detailed Solution Below)

Option 3 : 5 km/hour

Average Speed MCQ Question 9 Detailed Solution

GIVEN:

10 km and 20 km distance is covered in 1 hours and 5 hours respectively.

FORMULA USED:

Average speed = Total distance/total time

Calculation:

Total distance = 10 + 20 = 30 km

Total time = 1 + 5 = 6 hours

∴ Average speed = 30/6 = 5 km/hour

Mistake Point

As the distance is different therefore, **we will not use the below formula**.

Average Speed = (2 × S1 × S2)/(S1 + S2) where S1 and S2 are different speed.

MCQ Question 10 View this Question Online >

Two cabs A and B start from C for town D. If the distance between the two towns is 540 km and the slower taxi travelling at an average speed of 90 km/hr takes an hour more than the faster taxi, then find the speed (in km/hr) of the faster taxi.

1. 117
2. 126
3. 108
4. 99

Answer (Detailed Solution Below)

Option 3 : 108

Average Speed MCQ Question 10 Detailed Solution

Given:

Distance = 540km, Speed of the slower car = 90km/hr, faster car take 1 hour less then slower car to cover the same distance.

Formula:

Distance = speed × time

Calculation

Time taken by slower car = Distance/speed

⇒ Time = 540/90 = 6hrs

∴ Fast car takes 5 hour to cover the distance

∴ Speed = 540/ 5 = 108 km/hr