

SPEED & DISTANCE - SOLVED EXAMPLES

Advertisements

Q 1 - What is meters/sec for 54 km/hr?

A - 15 m/sec

B - 20 m/sec

C - 25 m/sec

D - 30 m/sec

Answer - A

Explanation

$$54 \text{ km/hr} = (54 \times 5/18) \text{ m/sec} = 15 \text{ m/sec.}$$

Q 2 - What is km/hr for 16 m/sec?

A - 53.6km/hr

B - 55.6km/hr

C - 57.6km/hr

D - 59.6km/hr

Answer - C

Explanation

$$16 \text{ m/sec} = (16 \times 18/5) \text{ km/hr} = 288/5 \text{ km/hr} = 57.6 \text{ km/hr.}$$

Q 3 - Anita can cover a sure separation in 1 hr 24min by covering two-third of the separation at 4km/hr and the rest at 5 km/hr. Find the aggregate separation.

A - 3 kms

B - 4 kms

C - 5 kms

D - 6 kms

Answer - D

Explanation

Let the aggregate separation be x km.

$$\text{Then, } \frac{2}{3}x/4 + \frac{1}{3}x/5 = 7/5$$

$$\Rightarrow x/6 + x/15 = 7/5$$

$$\Rightarrow 5x + 2x = 42$$

$$\Rightarrow 7x = 42$$

$$\Rightarrow x = 6.$$

$$\therefore \text{Total separation} = 6 \text{ km}$$

Q 4 - A man strolls from his home to the railroad station. On the off chance that he strolls at 5 km/hr, he misses a train by 7 minutes. However, on the off chance that he strolls at 6km/hr, he achieves the station 5 minute before the flight of the train. Discover the separation secured by him to achieve the station.

A - 5 kms

B - 6 kms

C - 7 kms

D - 8 kms

Answer - B

Explanation

Let the required separation be x km. At that point,
 $x/5 - x/6 = 12/60$ (distinction between two time interims is 12 min.)
 $\Rightarrow x/5 - x/6 = 1/5$
 $\Rightarrow 6x - 5x = 6$
 $\Rightarrow x = 6$
Required separation = 6 kms

Q 5 - Strolling at 7/8 of its typical velocity, a train is 10 minutes past the point of no return. Locate its standard time to cover the trip?

A - 60 min

B - 70 min

C - 80 min

D - 90 min

Answer - B

Explanation

New speed = 7/8 of its standard velocity
New time taken = 8/7 of the standard time.
(8/7 of the standard time) - (common time) = 10 min.
 $\Rightarrow 1/7$ of the standard time = 10 min
 \Rightarrow usual time = 70 min.

Q 6 - Hitesh covers a sure separation via auto driving at 70 km/hr and returns back to the beginning stage riding on a bike at 55km/hr. locate his normal velocity for the entire trip?

A - 62.6 km/hr

B - 61.6 km/hr

C - 60.6 km/hr

D - 59.6 km/hr

Answer - B

Explanation

Normal velocity = $2xy/(x+y)$ km/hr = $(2*70*55)/(70+55)$ km/hr
= $(2*70*55)/125$ km/hr = $308/5$ km/hr = 61.6 km/hr

Q 7 - The separation between two stations A and B is 450 km. A train begins at 4 pm from A and moves towards B at a normal velocity of 60 km/hr. Another train begins from B at 3.20 p.m and moves towards A at a normal velocity of 80 km/hr. How a long way from A will the two train s meet and what time?

A - 6:50 pm

B - 5:50 pm

C - 4:50 pm

D - 3:50 pm

Answer - A

Explanation

Assume two trains meet at x km from A
(time taken by B to cover (450-x) km)-(time taken by A to cover x km) = 40/60
 $\Rightarrow (450-x)/80 - x/60 = 40/60$?3 (450-x) - 4x = 160
 $\Rightarrow 7x=1190 \therefore x = 170$
In this way the two trains meet at a separation of 170 km from A.
Time taken by A to cover 170 km = $170/60 = 2\text{hrs } 50 \text{ min.}$
Along these lines, the two trains meet at 6:50 pm

Q 8 - A man cycles from A to B, a separation of 21 km in 1 hr 40 min. The street from A is level for 13 km and afterward it is tough to B. The man's normal rate on level is 15 km/hr. Locate his normal tough pace?

A - 10 km/hr

B - 11 km/hr

C - 12 km/hr

D - 13 km/hr

Answer - A

Explanation

Let the normal tough rate be x km/hr. at that point,
 $13/15 + 8/x = 5/3$
 $\Rightarrow 8/x = (5/3 - 13/15) = 12/15 = 4/5$
 $\Rightarrow x = (8*5)/4 = 10$
 \therefore Normal tough rate = 10 km/hr

Q 9 - A hoodlum is spotted by a policeman from a separation of 100 meters. At the point when the policeman begins the pursuit, the criminal likewise begin s running. In the event that the pace of the criminal be 8km/hr and that of the policeman 10 km/hr, how far the hoodlum will have keep running before he is overwhelmed?

A - 200 m

B - 300 m

C - 400 m

D - 500 m

Answer - C

Explanation

Relative pace of the policeman = $(10-8)$ km/hr = 2 km/hr
Time taken by policeman to cover 100 m = $(100/1000 \times 1/2)$ hr = $1/20$ hr
In $1/20$ hr, the cheat covers a separation of $(8 \times 1/20)$ km = $(2/5)$ km = $(2/5 \times 1000)$ m
= 400 m

Q 10 - I walk a sure separation and ride back setting aside an aggregate time of 37 minutes. I could walk both routes in 55 minutes. To what extent would it take me to ride both ways?

- A - 18 min
- B - 19 min
- C - 20 min
- D - 21 min

Answer - B

Explanation

Let the given separation be x km. At that point,
(Time taken to walk X km) + (time taken to ride x km) = 37 min.
=> (time taken to walk $2X$ km) + (time taken to ride $2x$ km) = 74 min.
=> 55 min + (time taken to ride $2x$ km) = 74
=> time taken to ride $2x$ km = 19 min.

Q 11 - A and B are two stations 390 km separated. A train begins from An at 10 am and ventures towards B at 65 kmph. Another train begins from B at 11 am and towards A at 35 kmph. AT what time they meet?

- A - 2.15 pm
- B - 3.15 pm
- C - 4.15 pm
- D - 5.15 pm

Answer - A

Explanation

Assume they meet x hours after 10 am then,
(separation moved by first in x hrs.) + (separation moved by second in $(x-1)$ hrs)
= 390
 $\therefore 65x + 35(x-1) = 390$
=> $100x = 425$
=> $x = 17/4$
In this way, they meet 4 hrs 15 min. after 10 am at 2.15 pm

Q 12 - A products train leaves a station at a sure time and at a settled rate. Following 6 hours, an express prepare leaves the same station and moves in the same bearing at a uniform velocity of 90 kmph. This train makes up for lost time the merchandise train in 4 hours. Discover the velocity of the merchandise train.

- A - 33 kmph
- B - 34 kmph
- C - 35 kmph
- D - 36 kmph

Answer - B**Explanation**

Let the velocity of the merchandise train be x kmph.

Separation secured by products train in 10 hours = separation secured by express
prepare in 4 hours

$$\therefore 10x = 4 \times 90 \text{ or } x = 36$$

Along these lines, rate of products train = 36 kmph