A train running at the speed of 60 km/hr crosses a pole in 9 seconds. What is the length of the train?

A. 120 metres
B. 180 metres
C. 324 metres
D. 150 metres

Answer: Option D

Explanation:

$$60 \times \frac{5}{18} = \frac{50}{3} \text{ m/sec}$$

Length of the train = (Speed x Time).

$$\text{Speed} = 60 \times \frac{5}{18} \text{ m/sec} = \frac{50}{3} \text{ m/sec}$$

Length of the train = $\frac{50}{3} \times 9$ m = 150 m.

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2. A train 125 m long passes a man, running at 5 km/hr in the same direction in which the train is going, in 10 seconds. The speed of the train is:

A. 45 km/hr
B. 50 km/hr
C. 54 km/hr
D. 55 km/hr

Answer: Option B

Explanation:

Speed of the train relative to man = $\frac{125}{10}$ m/sec

$= \frac{25}{2}$ m/sec.

$$= \left(\frac{25}{2} \times \frac{18}{5} \right) \text{ km/hr}$$

= 45 km/hr.

Let the speed of the train be x km/hr. Then, relative speed = (x - 5) km/hr.

x - 5 = 45

x = 50 km/hr.

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3. The length of the bridge, which a train 130 metres long and travelling at 45 km/hr can cross in 30 seconds, is:

A. 200 m
B. 225 m
C. 245 m
D. 250 m

Answer: Option C

Explanation:

$\frac{5}{...}$

25
=
18 m/sec
2 m/sec.
Time = 30 sec.
Speed = 45 x
Let the length of bridge be x metres.
130 +
25
Then, x =
30
2
2(130 + x) = 750
x = 245 m.
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4 Two trains running in opposite directions cross a man standing on the platform in 27 seconds and
. 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:
A. 1 : 3
B. 3 : 2
C. 3 : 4
D. None of these
Answer: Option B
Explanation:
Let the speeds of the two trains be x m/sec and y m/sec respectively.
Then, length of the first train = 27x metres,
and length of the second train = 17y metres.
27x +
17y = 23
x+ y
27x + 17y = 23x + 23y
4x = 6y
x 3= .y 2

5 A train passes a station platform in 36 seconds and a man standing on the platform in 20 seconds.
. If the speed of the train is 54 km/hr, what is the length of the platform?
A. 120 m
B. 240 m
C. 300 m
D. None of these
Answer: Option B
Explanation:
5
18 m/sec = 15 m/sec.
Length of the train = (15 x 20)m = 300 m.
Speed = 54 x
Let the length of the platform be x metres.
x + 300= 15
36x + 300 = 540
Then,
x = 240 m.
A train 240 m long passes a pole in 24 seconds. How long will it take to pass a platform 650 m
long?

A. 65 sec
B. 89 sec
C. 100 sec
D. 150 sec
Answer: Option B
Explanation:
240
24 m/sec = 10 m/sec.
240 + 650
Required time =
10
sec = 89 sec.
Speed =
7 Two trains of equal length are running on parallel lines in the same direction at 46 km/hr and 36
. km/hr. The faster train passes the slower train in 36 seconds. The length of each train is:
A. 50 m
B. 72 m
C. 80 m
D. 82 mAnswer: Option A
Explanation:
Let the length of each train be x metres.
Then, distance covered = 2x metres.
Relative speed = (46 - 36) km/hr
= 10 x
5
18 m/sec
25
9 m/sec
2x 25
=
36 9
2x = 100
=
x = 50.
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8 A train 360 m long is running at a speed of 45 km/hr. In what time will it pass a bridge 140 m
. long?
A. 40 sec
B. 42 sec
C. 45 sec
D. 48 sec
Answer: Option A
Explanation:
5
Formula for converting from km/hr to m/s: X km/hr
X x
m/s.
=
18
5
25
Therefore, Speed = 45 x

= m/sec.
18 m/sec 2
Total distance to be covered = (360 + 140) m = 500 m.
Formula for finding Time =
Distance
Speed
500 x 2
= 40 sec.
25
sec

Required time =
9 Two trains are moving in opposite directions @ 60 km/hr and 90 km/hr. Their lengths are 1.10 km
. and 0.9 km respectively. The time taken by the slower train to cross the faster train in seconds is:
A.36
B. 45
C. 48
D.49Answer: Option C
Explanation:
Relative speed = (60+ 90) km/hr
= 150 x
5
18 m/sec
125
3 m/sec.
Distance covered = (1.10 + 0.9) km = 2 km = 2000 m.
=
3
125 sec = 48 sec.

Required time = 2000 x
10 A jogger running at 9 kmph alongside a railway track in 240 metres ahead of the engine of a 120
. metres long train running at 45 kmph in the same direction. In how much time will the train pass
the jogger?
A. 3.6 sec
B. 18 sec
C. 36 sec
D. 72 sec
Answer: Option C
Explanation:
Speed of train relative to jogger = (45 - 9) km/hr = 36 km/hr.
5
18 m/sec
= 10 m/sec.
= 36 x
Distance to be covered = (240 + 120) m = 360 m.
Time taken =
360
= 36 sec.
10 sec
A 270 metres long train running at the speed of 120 kmph crosses another train running in opposite
direction at the speed of 80 kmph in 9 seconds. What is the length of the other train?

A. 230 m
B. 240 m
C. 260 m
D. 320 m
E. None of theseAnswer: Option A
Explanation:
Relative speed = (120 + 80) km/hr

$$= 200 \times$$

$$\frac{5}{18} \text{ m/sec}$$

$$\frac{500}{9} \text{ m/sec.}$$

Let the length of the other train be x metres.

$$= $$

$$\frac{x + 270}{9} = \frac{500}{9}$$

x + 270 = 500
Then,
x = 230.

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12. A goods train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the goods train?

A. 230 m
B. 240 m
C. 260 m
D. 270 m
Answer: Option D
Explanation:

Speed = 72 x $\frac{5}{18}$ m/sec = 20 m/sec.

Time = 26 sec.

Let the length of the train be x metres.

$$\frac{x + 250}{26} = 20$$

x + 250 = 520
Then,
x = 270.

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13. Two trains, each 100 m long, moving in opposite directions, cross each other in 8 seconds. If one is moving twice as fast the other, then the speed of the faster train is:

A. 30 km/hr
B. 45 km/hr
C. 60 km/hr
D. 75 km/hrAnswer: Option C
Explanation:
Let the speed of the slower train be x m/sec.
Then, speed of the faster train = 2x m/sec.

Relative speed = (x + 2x) m/sec = 3x m/sec.

$$\frac{(100 + 100)}{8} = 3x$$

24x = 200

$$x = \frac{25}{3}.$$

So, speed of the faster train =

$$\frac{50}{3}$$ m/sec

$$= \frac{50}{3} \times \frac{18}{5} \text{ km/hr}$$

= 60 km/hr.

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14
. Two trains 140 m and 160 m long run at the speed of 60 km/hr and 40 km/hr respectively in opposite directions on parallel tracks. The time (in seconds) which they take to cross each other, is:

A. 9
B. 9.6
C. 10
D. 10.8

Answer: Option D

Explanation:

$$= 250 \times \frac{5}{18} \text{ m/sec}$$

$$= \frac{250}{9} \text{ m/sec}.$$

Relative speed = (60 + 40) km/hr = 100 x

Distance covered in crossing each other = (140 + 160) m = 300 m.

Required time = 300 x

$$\frac{9}{250} \text{ sec} = \frac{54}{5} \text{ sec} = 10.8 \text{ sec}.$$

15
. A train 110 metres long is running with a speed of 60 kmph. In what time will it pass a man who is running at 6 kmph in the direction opposite to that in which the train is going?

A. 5 sec
B. 6 sec
C. 7 sec
D. 10 sec

Answer: Option B

Explanation:

Speed of train relative to man = (60 + 6) km/hr = 66 km/hr.

$$= 66 \times \frac{5}{}$$

18 m/sec

55

3 m/sec.

Time taken to pass the man = 110 x

3

55 sec = 6 sec.