Problems on trains Questions for Bank Clerk Pre Exams.

Problems on Trains Quiz 5

Directions: Kindly study the following Questions carefully and choose the right answer:

1. The ratio of the speeds of the train and the man is 6 : 1. The length of the train is 650m and crosses a pole in 1 minute 5 seconds. In how much time will the man cross the 240m long platform?

A. 1 minute 24 seconds
B. 2 minutes 30 seconds
C. 2 minutes
D. 2 minutes 24 seconds
E. 3 minutes

2. A train started from point A at a speed of 60 km/hr and after 2 hours another train of same length started from A at a speed of 80 km/hr in the same direction as the first one. After how much time the second train will meet the first train?

A. 5 hours
B. 3 hours
C. 6 hours
D. 8 hours
E. None of these

3. A pilot flies an aircraft at a certain speed for a distance of 800 km. He could have saved 40 min by increasing the average speed of the plane by 40 km/h. Find the average speed of the aircraft.

A. 200Km/h
B. 300Km/h
C. 240Km/h
D. 160Km/h
E. None of these

4. A train 125 m long passes a person, running at 8 kmph in the same direction in which the train is going in 25 seconds. The speed of the train is:

A. 22
B. 36
C. 30
D. 26
E. None of these

5. Two trains of lengths 160 m and 200 m travel at the speeds of 48 m/s and 52 m/s respectively in opposite direction to each other. What is the total time taken by them to cross each other?

A. 3.6 sec
B. 4 sec
C. 5.2 sec
D. 6.8 sec
E. None of these

6. A train is moving at a speed of 20 m/s and crosses a pole in 8 seconds. How long will it take to cross another train which is running in opposite direction at double speed and half the length of the first train?

A. 2 sec
B. 3 sec
C. 6 sec
D. 4 sec
E. None of these

7. If a man is running with a speed of 15 m/s and crosses a train which is running in opposite direction with the speed of 126 km/h, in 13 second. Find the length of the train.

A. 650 m B. 750 m C. 600 m D. 700 m E. None of these

8. A train is running at a speed of 36 km/h and crosses a bridge of length 250 m in 30 seconds. What is ratio between the length of train and the length of bridge?

A. 1 : 4 B. 1 : 2 C. 1 : 5 D. 3 : 2 E. 2 : 1

9. Two trains are running on parallel lines in the same direction. The faster train crosses a man in the second train in 30 second. If the speed of faster train is 18 km/h is more than the slower train, find the length of the faster train.

A. 125 m B. 225 m C. 250 m D. 150 m E. None of these

10. A train leaves Mumbai at 9 am at a speed of 40 kmph. After one hour, another train leaves Mumbai in the same direction at a speed of 50 kmph. When and at what distance from Mumbai will the two trains meet?

A. 1:00 pm, 220 km B. 1:00 pm, 200 km C. 2:00, 200 km
D. 2:00 pm, 220 km E. None of these

Correct Answers:

1	2	3	4	5	6	7	8	9	10
D	C	A	D	A	D	A	C	D	C

Explanations:

1. Speed of the train = 6x m/s, speed of the man = x m/s

Length of the train = 650m, time taken to cross a pole = 1 minute 5 seconds = 65 seconds

$S = \frac{D}{T}$

$6x = \frac{650}{65}$

$x = \frac{10}{6} = \frac{5}{3}$

Speed of the man = $\frac{5}{3}$ m/s

Man can cross the 240m platform in $\frac{240}{5/3}$

= 144 seconds = 2 minutes 24 seconds

Hence, option D is correct.

2. Let after x hours the second train will meet the first train.

Because distance is same,

$S_1 t_1 = S_2 t_2$

$60 (x + 2) = 80 \times x$

$60x + 120 = 80x$

$80x – 60x = 120$

$20x = 120$

$x = 6$ hours

Hence, option C is correct.

3. Let the average speed be a km/hr

Time taken by aircraft (t) = $\frac{800}{a}$

As per the condition : $t - \frac{40}{60} = \frac{800}{a + 40}$

$\Rightarrow \frac{800}{a} - \frac{800}{a + 40} = \frac{2}{3}$

$\Rightarrow \frac{32000}{a(a + 40)} = \frac{2}{3}$

⇒ a (a + 40) = 48000
⇒ a = 200Km/hr
Hence option A is correct.

4. Speed of the train relative to Person

$= \left(\frac{125}{25}\right)$ m/sec = 5 m/sec

$\Rightarrow \left(5 \times \frac{18}{5}\right)$ km/hr = 18 km/hr.

Let the speed of the train be x kmph. Then, relative speed = (x – 8) kmph
So, (x – 8) = 18 ⇒ x = 26 kmph
Hence, option (D) is correct.

5. Relative speed = 48 + 52 = 100 m/s
Total distance covered by both the trains = 160 + 200 = 360 m

Speed = $\frac{\text{Distance}}{\text{Time}}$

$\therefore$ 100 = $\frac{360}{\text{Time}}$

$\therefore$ Time = 3.6 seconds
Hence, option A is correct.

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6. Since the speed of the train is 20 m/s and it takes 8 seconds to cross the pole, so the length of the train is 20 × 8 = 160 metres
Now the other train is coming at double speed = 40 m/s and its length is half = 80 metres
So the total length to be crossed becomes = 160 + 80 = 240 meters
And the relative speed becomes 40 + 20 = 60 m/s

Therefore, the time taken = $\frac{240}{60}$ = 4 seconds

Hence, option D is correct.

7.

Speed of the train in m/s = $126 \times \frac{5}{18}$ = 35 m/s

D = S × T
D = (15 + 35) × 13
D = 50 × 13
D = 650 m
Hence, option A is correct.

8.

$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$

$36 \times \frac{5}{18} = \frac{(x + 250)}{30}$

$10 \times 30 = x + 250$
$300 - 250 = x$
$x = 50$ m
Ratio = 50 : 250 = 1 : 5
Hence, option C is correct.

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9. $S1 - S2 = D \div T$
$18 \times 5 \div 18 = D \div 30$
$5 \times 30 = D$
$D = 150$m
The length of train = 150m
Hence, option D is correct.

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10. When the second trains leaves Mumbai the first train covers $40 \times 1 = 40$ km
So, the distance between first train and second train is 40 km at 10:00 am
Time taken by the trains to meet

$= \frac{\text{Distance}}{\text{relative speed}} = \frac{40}{50 - 40} = 4$ hours

So, the two trains will meet $4 \times 50 = 200$ km away from Mumbai at 2 p.m.
Hence, option C is correct.