

11- Two trains starting at the same time from two stations 200 km apart and going in opposite directions cross each other at a distance of 110 km from one of the stations. What is the ratio of their speeds?

- **A.** 9 : 20
- **B.** 11 : 9
- **C.** 11 : 20
- **D.** 9 : 20
- **E.** None of these

Answer & Explanation

Answer - **B** (11 : 9)

Explanation - In the same time, they cover 110 km and 90 km respectively. Ratio of their speeds = $110 : 90 = 11 : 9$

12- A and B walk around a circular track. They start at 8 a.m. from the same point in the opposite directions. A and B walk at a speed of 2 rounds per hour and 3 rounds per hour respectively. How many times shall they cross each other before 9.30 a.m.?

- **A.** 5
- **B.** 6
- **C.** 7
- **D.** 8
- **E.** None of these

Answer & Explanation

Answer - **C** (7)

Explanation - Relative speed = $(2 + 3) = 5$ rounds per hour So, they cross each other 5 times in an hour and 2 times in half an hour Hence, they cross each other 7 times before 9.30 a.m.

13- The distance between two cities A and B is 330 km. A train starts from A at 8 a.m. and travels towards B at 60 km/hr. Another train starts from B at 9 a.m. and travels towards A at 75 km/hr. At what time do they meet?

- **A.** 10 am
- **B.** 10:30 am
- **C.** 11 am
- **D.** 11:30 am
- **E.** None of these
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Answer & Explanation

Answer - C (11 am)

Explanation - Suppose they meet x hrs after 8 a.m.

Then, (Distance moved by first in x hrs) + [Distance moved by second in (x-1) hrs] = 330

$$60x + 75(x - 1) = 330$$

$$x = 3$$

So, they meet at (8 + 3), i.e. 11 a.m

14- The speed of a car increases by 2 kms after every one hour. If the distance travelled in the first one hour was 35 kms, what was the total distance traveled in 12 hours?

- **A.**456 kms
- **B.**482 kms
- **C.**552 kms
- **D.**556 kms
- **E.**None of these

Answer & Explanation

Answer - C (552 kms)

Explanation - Total distance travelled in 12 hours = (35 + 37 + 39 + upto 12 terms)
This is an A.P. with first term,

a = 35, number of terms, n = 12, common difference, d =2.

$$\text{Required distance} = \frac{12}{2} (2 \times 35 + (12 - 1) \times 2) = 6(70 + 22) = 552 \text{ kms}$$