

Ans A.

- 17 A train travels at a certain average speed for a distance of 63 km and then travels a distance of 72 km at an average speed of 6 km/hr more than its original speed. If it takes 3 hours to complete the total journey, what is the original speed of the train in km/hr?
  - A. 24 B. 33 C. 42 ♀ D. 66

  - $\circ$  Your Answer :
  - $\circ \ Correct \ Answer: C$

## • Answer Justification :

Given that distance = 63 km.

Let original speed of train = x km/hr.

Time = distance / time = 63/x hrs.

And it travels a distance of 72 km at an average speed of 6 km/hr more than the original speed.

Distance = 72 km; speed = (x + 6) km/hr.

Time = 72/(x+6) hrs.

If it takes 3 hours to complete the whole journey

$$63/x + 72/(x + 6) = 3$$
 hrs

 $\Rightarrow 63(x + 6) + 72x = 3x(x + 6)$ 

$$\Rightarrow 21(x+6) + 24x = x(x+6)$$

- $\Rightarrow 45x + 21 \times 6 = x2 + 6x$
- $\Rightarrow x2 39x 126 = 0$
- $\Rightarrow (x 42)(x + 3) = 0$
- $\Box x = 42 \text{ km/hr}$

 $\Box$ Theoriginal average speed = 42 km/hr

**18** A group of 630 children is seated in rows for a group photo session. Each row contains three less children than the row in front of it. Which one of the following number of rows is not possible?

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