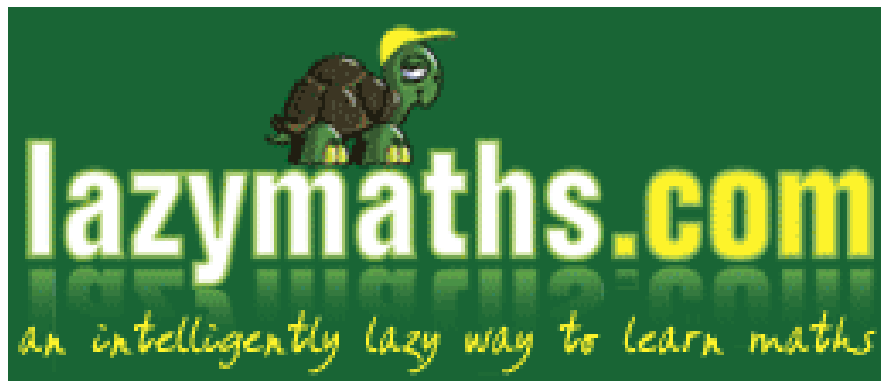


Free Example

of

Don't Solve

from



Question

A and B have to go from X to Y which are at a distance of 230 kms from each other. A drives at a constant speed of 100 kms/hr for the first 115 kms and then at an average speed of 50 kms/hr for the remaining distance. B starts with an initial speed of 50 kms/hr at X and drives with constant acceleration such that when he reaches Y, his speed is 100 kms/hr. Which of the following statement is true?

- a. A reaches Y first
- b. B reaches Y first
- c. A and B reach Y together
- d. Cannot calculate from given data
- e. None of these

See Next page for **Usual Method**

Question

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The Usual Method

A covers half of the distance at 100 kms/hr and the remaining half at 50 kms/hr.

$$\text{Hence average speed of A} = \frac{2 \times 50 \times 100}{50 + 100} = \frac{10000}{150} = 66.67 \text{ kms/hr}$$

$$\text{Average speed of B for the whole journey} = \frac{100 + 50}{2} = \frac{150}{2} = 75 \text{ kms/hr}$$

\therefore Average speed of B > Average speed of A,
B will reach Y before A does.

(Ans: b)

Estimated Time to arrive at the answer = 45 seconds.

See Next page for **Smart Technique**

Question

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Using Technique

Note that speed of B follows Arithmetic mean and that of A follows Harmonic mean. We know that for a given set of numbers, Harmonic Mean is always $<$ Arithmetic Mean. Hence speed of A $<$ speed of B, so B reaches Y before A.

(Ans: b)

Estimated Time to arrive at the answer = 10 seconds.

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