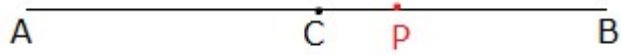


5.



Given: C is midpoint of AB

Suppose AB has more than 1 midpoints

Let P be other midpoint of AB

$$AP = PB$$

$$AP + AP = AP + PB$$

$$2 AP = AB$$

$$AP = \frac{1}{2} AB \dots (i)$$

$$AC = BC \quad \text{(given)}$$

$$AC + AC = BC + AC \quad \text{(If equals are added to equals, the wholes are equal)}$$

$$2 AC = AB$$

$$AC = \frac{1}{2} AB \dots (ii)$$

From equations (i) and (ii)

$$AP = AC \quad \text{(Things equal to same thing are equal to each other)}$$

But this is not possible as it contradicts the fact that C and P are distinct points.

Therefore our supposition is wrong

AB cannot have more than one midpoints.

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