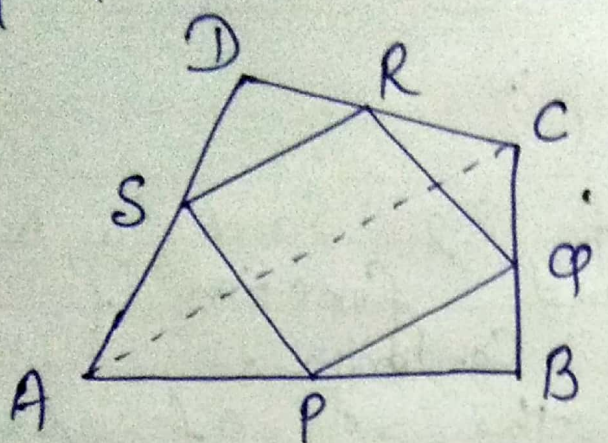


08/09/xx

Class-IX (MATHS)

K. Kanhaiya

(1)



Sides AB, BC, CD and DA . AC is a diagonal. Show that

$ABCD$ is a quad in which P, Q, R and S are mid-points of the

(a) $SR \parallel AC$ and $SR = \frac{1}{2} AC$

(b) $PQ = SR$

(c) $PQRS$ is a parallelogram.

Ans \rightarrow In $\triangle ADC$, S and R are mid points of AD and DC respectively

So from mid-point theorem.

$$SR \parallel AC \text{ and } SR = \frac{1}{2} AC \text{ --- (i)}$$

ii

In $\triangle ABC$

P and Q are mid-point of AB

and BC respectively

So By mid-point theorem

$$PQ \parallel AC, PQ = \frac{1}{2} AC \text{ --- (ii)}$$

∴ From eqⁿ (i) and (ii)

$$PQ = SR,$$

(c) also $PQ = SR$ and $PQ \parallel SR$
So PQRS is a \parallel^m .

(2) ABCD is a rhombus P, Q, R, S are the mid-point of sides AB, BC, CD and DA respectively. Show that the quad PQRS is a rectangle

(3) ABCD is a rectangle and P, Q, R and S are mid-points of sides AB, BC, CD and AD respectively. Show that quadrilateral PQRS is a rhombus.