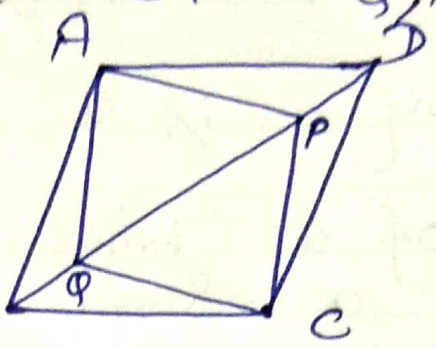
03/09/XX Class-IX SC (MATHS) K. Kanhaiya

Topic : Quadrilateral.

1) In the given fig DP = BQ, ABCD is a 11^{gm} For Show that



(i) $\Delta APD \cong \Delta CQB$

(ii) $AP = CQ$

(iii) $\Delta AQB \cong \Delta CPD$

(iv) $AQ = CP$

(v) APCQ is a 11^{gm}

Ans⇒ (i) In ΔAPD and ΔCQB

$AD = BC$ (Opp side are equal)

$PD = BQ$ (Given)

$\angle QBC = \angle ADP$ (Alt^n int $\angle$s)

$\therefore \Delta APD \cong \Delta CQB$ by SAS !

$\therefore$ By CPCT

(ii) $AP = CQ$

(iii) $\Delta AQB \cong \Delta CPD$

In ΔAQB and ΔCPD

$AB = CD$ (Opp side of 11^{gm} are equal)

$BQ = PD$ (Given)

$\therefore \angle ABQ = \angle CDP$ (Alt^n int $\angle$s)

$\therefore \Delta AQB \cong \Delta CPD$ by SAS

(iv) By C.P.C.T

$AQ = CP$

(v) $\therefore$ We have

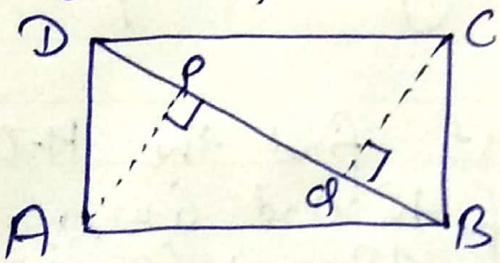
$AP = CQ$

and $AQ = CP$

So opp sides are equal hence

APCQ is a ~~a~~ a parallelogram.

2) Do yourself:

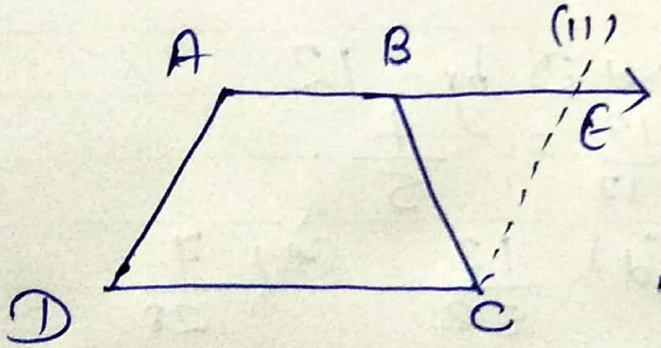


Here ABCD is a ||gm
AP and CQ are $\perp^r$ on BD.
Show that

(i) $\Delta APB \cong \Delta CQD$

(ii) $AP = CQ$

(3)



ABCD is a trapezium in which $AB \| CD$
$AD = BC$.

Show that (i) $\angle A = \angle B$

(ii) $\angle C = \angle D$ (iii) $\Delta ABC \cong \Delta BAD$

(iv) Diagonal AC = diagonal BD.