

14/9/2020
MONDAY

MATHEMATICS

STD - 8
class - 30

Assignment

- 1) PQRS is an isosceles trapezium and QR is extended to X. If $\angle SRX = 100^\circ$, find all angles of PQRS.

Ans)

$$\angle SRX = 100^\circ \text{ (given)}$$

$$\therefore \angle QRS = \underline{80^\circ} \text{ (linear pair)}$$

$$\angle QPS + \angle QRS = 180^\circ$$

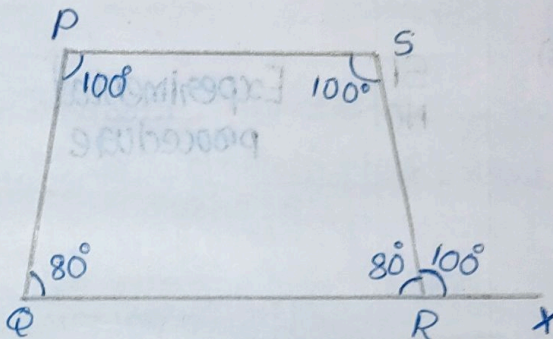
$$\angle QPS + 80^\circ = 180^\circ$$

$$\therefore \angle QPS = 180 - 80 = \underline{100^\circ}$$

QR is parallel to PS

$$\therefore \angle PQR = \underline{80^\circ} \text{ (because PQRS is an isosceles trapezium)}$$

$$\therefore \angle PSR = \underline{100^\circ} \text{ (co-interior angles)}$$



- 2) Prove that any non-isosceles trapezium is not cyclic.

Ans)

PQRS is a non-isosceles trapezium.

PQ is parallel to SR

PS is not parallel to QR

$$\therefore \angle P \text{ is not equal to } \angle Q$$

$$\angle P + \angle S = 180^\circ \text{ being co-interior angles.}$$

But as $\angle P$ and $\angle Q$ are not equal, when we use

$$\angle Q \text{ instead of } \angle P, \angle Q + \angle S \neq 180^\circ$$

ie opposite angles of the quadrilateral are not supplementary. so PQRS is not a cyclic quadrilateral. That is non isosceles trapezium are not cyclic.

