

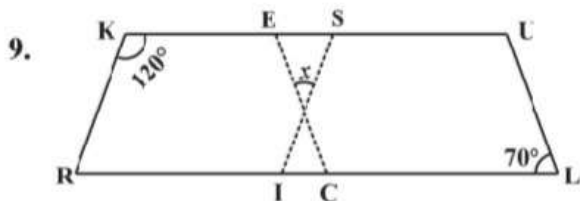
Worksheet -16

Subject: - Mathematics

Class: - VIII

Teacher: - Ms. Nancy

Name: _____ Class & Sec: _____ Roll No. _____ Date: 26.05.2020



Ex3.3

In the above figure both RISK and CLUE are parallelograms. Find the value of x .

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10. Explain how this figure is a trapezium. Which of its two sides are parallel? (Fig 3.32)

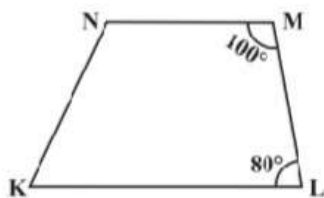


Fig 3.32

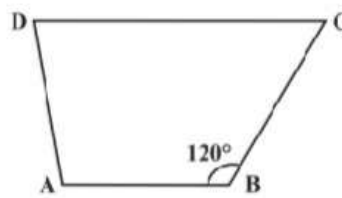


Fig 3.33

11. Find $m\angle C$ in Fig 3.33 if $\overline{AB} \parallel \overline{DC}$.
12. Find the measure of $\angle P$ and $\angle S$ if $\overline{SP} \parallel \overline{RQ}$ in Fig 3.34.
(If you find $m\angle R$, is there more than one method to find $m\angle P$?)

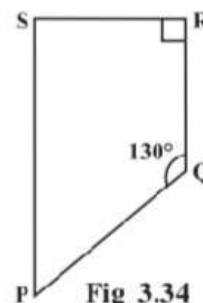
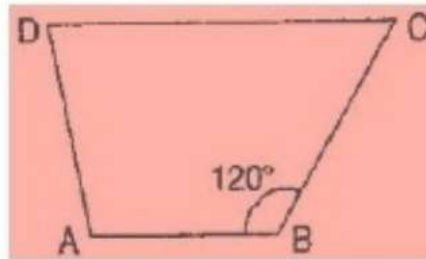


Fig 3.34

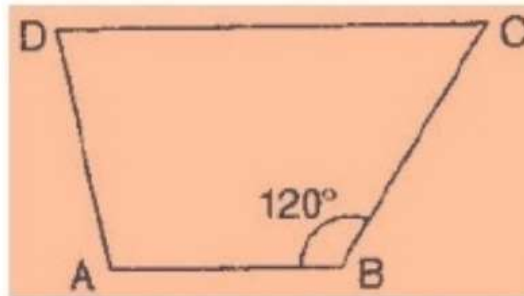
Question 11

Find $m\angle C$ in figure, if $\overline{AB} \parallel \overline{DC}$,

**Answer 11**

Here, $\angle B + \angle C = 180^\circ$

$[\because \overline{AB} \parallel \overline{DC}]$



$$\therefore 120^\circ + m\angle C = 180^\circ$$

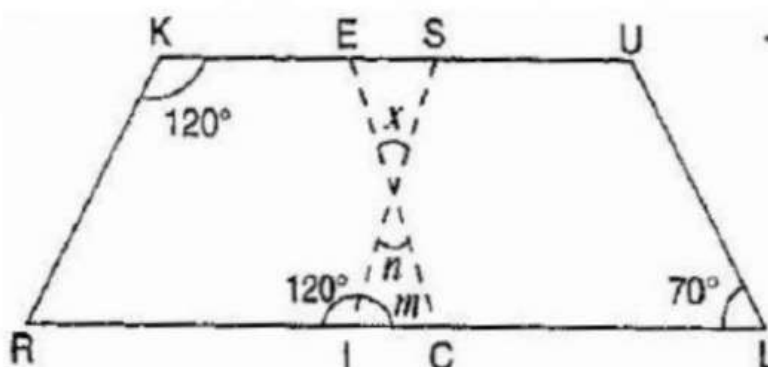
$$\Rightarrow m\angle C = 180^\circ - 120^\circ = 60^\circ$$

Answer 9

In parallelogram RISK,

$$\angle RIS = \angle K = 120^\circ$$

[Opposite angles of a parallelogram are equal]



$$\angle m + 120^\circ = 180^\circ \quad \text{[Linear pair]}$$

$$\Rightarrow \angle m = 180^\circ - 120^\circ = 60^\circ$$

$$\text{and } \angle ECI = \angle L = 70^\circ \quad \text{[Corresponding angles]}$$

$$\Rightarrow m + n + \angle ECI = 180^\circ \quad \text{[Angle sum property of a triangle]}$$

$$\Rightarrow 60^\circ + n + 70^\circ = 180^\circ$$

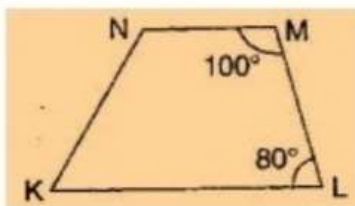
$$\Rightarrow 130^\circ + n = 180^\circ$$

$$\Rightarrow n = 180^\circ - 130^\circ = 50^\circ$$

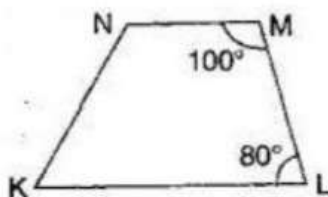
$$\text{also } x = n = 50^\circ \quad \text{[Vertically opposite angles]}$$

Question 10

Explain how this figure is a trapezium. Which is its two sides are parallel?

**Answer 10**

Here, $\angle M + \angle L = 100^\circ + 80^\circ = 180^\circ$ [Sum of interior opposite angles is 180°]

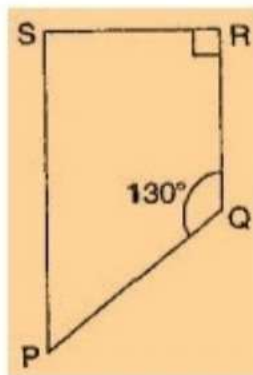


\therefore NM and KL are parallel.

Hence, KLMN is a trapezium.

Question 12

Find the measure of $\angle P$ and $\angle S$ if $\overline{SP} \parallel \overline{RQ}$ in given figure. (If you find $m\angle R$ is there more than one method to find $m\angle P$)

**Answer 12**

Here, $\angle P + \angle Q = 180^\circ$

[Sum of co-interior angles is 180°]

$$\Rightarrow \angle P + 130^\circ = 180^\circ$$

$$\Rightarrow \angle P = 180^\circ - 130^\circ$$

$$\Rightarrow \angle P = 50^\circ$$

$$\because \angle R = 90^\circ$$

[Given]

$$\therefore \angle S + 90^\circ = 180^\circ$$

$$\Rightarrow \angle S = 180^\circ - 90^\circ$$

$$\Rightarrow \angle S = 90^\circ$$

Yes, one more method is there to find $\angle P$

$$\angle S + \angle R + \angle Q + \angle P = 360^\circ$$

[Angle sum property of quadrilateral]

$$\Rightarrow 90^\circ + 90^\circ + 130^\circ + \angle P = 360^\circ$$

$$\Rightarrow 310^\circ + \angle P = 360^\circ$$

$$\Rightarrow \angle P = 360^\circ - 310^\circ$$

$$\Rightarrow \angle P = 50^\circ$$