

# JSUNIL TUTORIAL

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## QUADRILATERAL IX - 1

- Three angles of a quadrilateral measure  $56^\circ$ ,  $115^\circ$  and  $84^\circ$ . Find the measure of the fourth angle.
- The angles of a quadrilateral are in the ratio 2 : 4 : 5 : 7. Find the angles.
- In the given figure 9.1, ABCD is a parallelogram in which  $\angle A = 72^\circ$ . Calculate  $\angle B$ ,  $\angle C$  and  $\angle D$

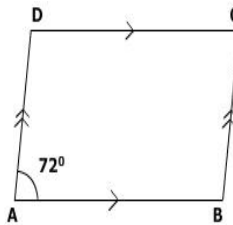


Fig. 9.1

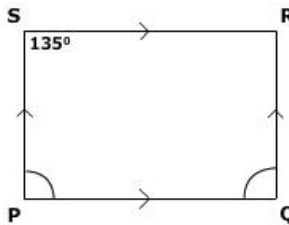


fig 9.2

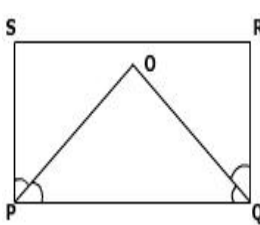


fig. 9.3

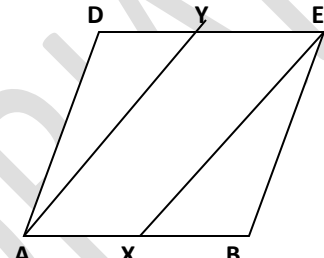


fig 9.4

- In a parallelogram ABCD, if  $\angle A = 2x + 25$  and  $\angle B = 3x - 5$ . Find the value of  $x$  and the measure of each angle of the parallelogram.
- ABCD is a parallelogram in which  $AB = 9.5$  cm and its perimeter is 30 cm. Find the length of each side of the parallelogram.
- In fig 9.2 In a parallelogram PQRS,  $\angle S = 135^\circ$ . Determine the measure of  $\angle P$  and  $\angle Q$ .
- ABCD is a parallelogram in which  $\angle DAB = 80^\circ$ , and  $\angle DBC = 60^\circ$ . Compute  $\angle CDB$  and  $\angle ADB$ .
- In the given figure 9.3, PQRS is a parallelogram, in which the bisectors of  $\angle P$  and  $\angle Q$  intersect at a point O. Prove that  $\angle POQ = 90^\circ$
- In fig 9.4, ABCD is a parallelogram and X and Y are the mid-points of the sides AB and DC, respectively. Show that the quadrilateral AXC Y is a parallelogram.
- In a  $\triangle ABC$ , D, E, F are respectively the mid-points of BC, CA and AB. If the lengths of the sides AB, BC and CA are 7 cm, 8 cm and 9 cm respectively, find the perimeter of  $\triangle DEF$ .
- In fig. 9.5  $\triangle ABC$  median AD is produced to X such that  $AD = DX$ . Prove that ABXC is parallelogram.

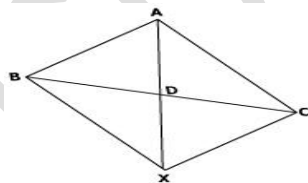


Fig 9.5

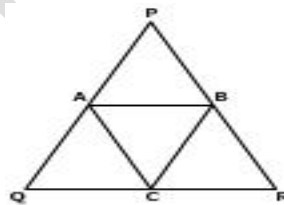


fig. 9.6

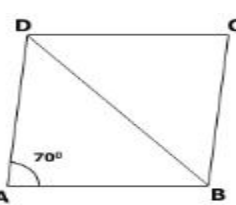


fig. 9.7

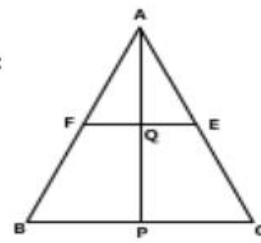


fig. 9.8

- In fig 9.6. If B, C and A are respectively the mid-points of the sides QR, RP and PQ of an equilateral triangle PQR, prove that triangle ABC is also an equilateral triangle.
- In the given figure, ABCD is a rhombus. If  $\angle A = 70$  then find  $\angle CDB$
- In fig. 9.8, in triangle ABC, E and F are the mid-points of AC and AB respectively. The altitude AP to BC intersects EF at Q. Prove that  $AQ = QP$ .
- M, N and P are the mid-points of AB, AC and BC respectively. If  $MN = 3$ cm,  $NP = 3.5$ cm and  $MP = 2.5$ cm, calculate BC, AB and AC.

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