



Exercise 15A

Q5.

Answer :

Let the measures of the angles of the given quadrilateral be $(3x)^\circ$, $(5x)^\circ$, $(7x)^\circ$ and $(9x)^\circ$. Sum of all the angles of a quadrilateral is 360° . $\therefore 3x + 5x + 7x + 9x = 360$
 $24x = 360$
 $x = 15$

Angles measure: $(3 \times 15)^\circ = 45^\circ$, $(5 \times 15)^\circ = 75^\circ$, $(7 \times 15)^\circ = 105^\circ$, $(9 \times 15)^\circ = 135^\circ$

Q6.

Answer :

Sum of the four angles of a quadrilateral is 360° .

If the unknown angle is x° , then:

$$75+75+75+x=360 \quad x=360-225=135$$

The fourth angle measures 135° .

Q7.

Answer :

Let the three angles measure x° each.

Sum of all the angles of a quadrilateral is 360° .

$$\therefore x+x+x+120=360 \quad 3x+120=360 \quad 3x=240 \quad x=80$$

Each of the equal angles measure 80° .

Q8.

Answer :

Let the two unknown angles measure x° each.

Sum of the angles of a quadrilateral is 360° .

$$\therefore 85+75+x+x=360 \quad 160+2x=360 \quad 2x=200 \quad x=100$$

Each of the equal angle measures 100° .

Q9.

Answer :

Sum of the angles of a quadrilateral is 360° .

$$\therefore \angle A + \angle B + 60^\circ + 100^\circ = 360^\circ \quad \angle A + \angle B = 360^\circ - 100^\circ - 60^\circ = 200^\circ \text{ or } \angle A + \angle B = 100^\circ \quad \dots (1)$$

Sum of the angles of a triangle is 180° . In $\triangle APB$: $12^\circ + \angle B + \angle P = 180^\circ$

Using equation (1): $100^\circ + \angle P = 180^\circ \Rightarrow \angle P = 80^\circ$

$$\therefore \angle APB = 80^\circ$$

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