



### 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  $360^\circ$ .  $\therefore 3x + 5x + 7x + 9x = 360$   
 $24x = 360$   
 $x = 15$

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  $360^\circ$ .

If the unknown angle is  $x^\circ$ , then:

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

The fourth angle measures  $135^\circ$ .

Q7.

**Answer :**

Let the three angles measure  $x^\circ$  each.

Sum of all the angles of a quadrilateral is  $360^\circ$ .

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

Each of the equal angles measure  $80^\circ$ .

Q8.

**Answer :**

Let the two unknown angles measure  $x^\circ$  each.

Sum of the angles of a quadrilateral is  $360^\circ$ .

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

Each of the equal angle measures  $100^\circ$ .

Q9.

**Answer :**

Sum of the angles of a quadrilateral is  $360^\circ$ .

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

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

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

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

\*\*\*\*\* END \*\*\*\*\*