



### Exercise 9A

Question 1:

Let the fourth angle be  $x$ .

We know, that sum of the angles of a quadrilateral is  $360^\circ$

$$\text{Then, } 56^\circ + 115^\circ + 84^\circ + x = 360^\circ$$

$$\Rightarrow 255^\circ + x = 360^\circ$$

$$\Rightarrow x = 360^\circ - 255^\circ = 105^\circ$$

$\therefore$  The fourth angle is  $105^\circ$ .

Question 2:

Let the angles of a quadrilateral be  $2x$ ,  $4x$ ,  $5x$  and  $7x$ .

We know, that sum of the angles of a quadrilateral is  $360^\circ$

$$\text{Then, } 2x + 4x + 5x + 7x = 360^\circ$$

$$\Rightarrow 18x = 360^\circ$$

$$\Rightarrow x = \frac{360}{18} = 20^\circ$$

$\therefore$  the angles of the quadrilateral are:

$$2x = 2 \times 20 = 40^\circ$$

$$4x = 4 \times 20 = 80^\circ$$

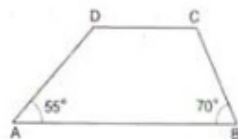
$$5x = 5 \times 20 = 100^\circ$$

$$7x = 7 \times 20 = 140^\circ$$

$\therefore$  the required angles are  $40^\circ, 80^\circ, 100^\circ$  and  $140^\circ$ .

Question 3:

Since  $AB \parallel DC$



Since  $AB \parallel DC$ ,  $\angle A$  and  $\angle D$  are consecutive interior angles.

Consecutive interior angles sum up to  $180^\circ$ .

$$\text{So, } \angle A + \angle D = 180^\circ$$

$$\Rightarrow 55^\circ + \angle D = 180^\circ$$

$$\Rightarrow \angle D = 180^\circ - 55^\circ = 125^\circ$$

Also, we know that, sum of the angles of a quadrilateral is  $360^\circ$

$$\Rightarrow \angle A + \angle B + \angle C + \angle D = 360^\circ$$

$$\Rightarrow 55^\circ + 70^\circ + \angle C + 125^\circ = 360^\circ$$

$$\Rightarrow 250^\circ + \angle C = 360^\circ$$

$$\Rightarrow \angle C = 360^\circ - 250^\circ = 110^\circ$$

$\therefore \angle C = 110^\circ$  and  $\angle D = 125^\circ$

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

