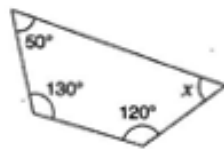




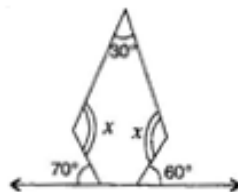
**Q6.** Find the angle measures  $x$  in the following figures:



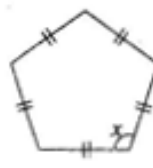
(a)



(b)

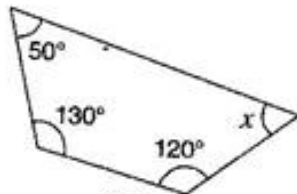


(c)



(d)

**Ans:** (a) Using angle sum property of a quadrilateral,



(a)

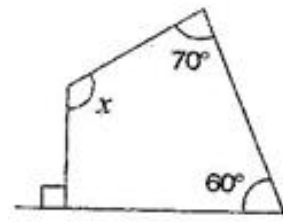
$$50^\circ + 130^\circ + 120^\circ + x = 360^\circ$$

$$\Rightarrow 300^\circ + x = 360^\circ$$

$$\Rightarrow x = 360^\circ - 300^\circ$$

$$\Rightarrow x = 60^\circ$$

(b) Using angle sum property of a quadrilateral,



(b)

$$90^\circ + 60^\circ + 70^\circ + x = 360^\circ$$

$$\Rightarrow 220^\circ + x = 360^\circ$$

$$\Rightarrow x = 360^\circ - 220^\circ$$

$$\Rightarrow x = 140^\circ$$

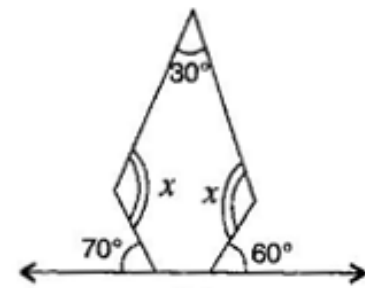
(a) First base interior angle

$$= 180^\circ - 70^\circ = 110^\circ$$

Second base interior angle

$$= 180^\circ - 60^\circ = 120^\circ$$

There are 5 sides,  $n = 5$



(c)

$$\therefore \text{Angle sum of a polygon} = (n - 2) \times 180^\circ$$

$$= (5-2) \times 180^\circ = 3 \times 180^\circ = 540^\circ$$

$$\therefore 30^\circ + x + 110^\circ + 120^\circ + x = 540^\circ$$

$$\Rightarrow 260^\circ + 2x = 540^\circ$$

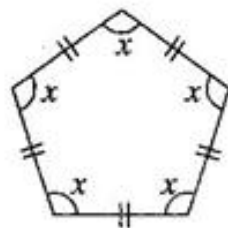
$$\Rightarrow 2x = 540^\circ - 260^\circ$$

$$\Rightarrow 2x = 280^\circ$$

$$\Rightarrow x = 140^\circ$$

**(b) Angle sum of a polygon =  $(n-2) \times 180^\circ$**

$$= (5-2) \times 180^\circ = 3 \times 180^\circ = 540^\circ$$



**(d)**

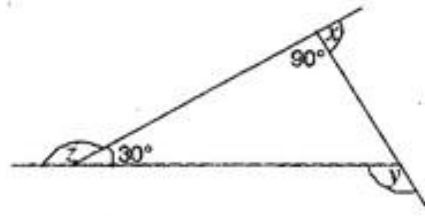
$$\therefore x + x + x + x + x = 540^\circ$$

$$\Rightarrow 5x = 540^\circ$$

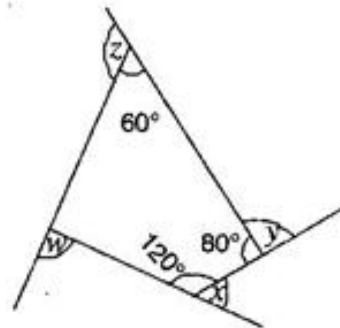
$$\Rightarrow x = 108^\circ$$

Hence each interior angle is  $108^\circ$ .

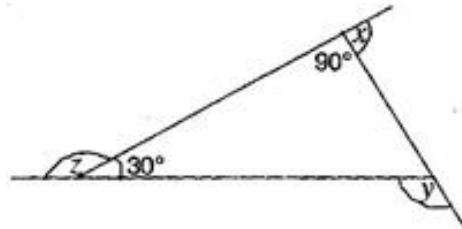
**Q7. (a) Find  $x + y + z$**



**(b) Find  $x + y + z + w$**



**Ans:** (a) Since sum of linear pair angles is  $180^\circ$ .



$$\therefore 90^\circ + x = 180^\circ$$

$$\Rightarrow x = 180^\circ - 90^\circ = 90^\circ$$

And  $z + 30^\circ = 180^\circ$

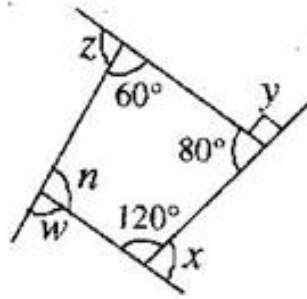
$$\Rightarrow z = 180^\circ - 30^\circ = 150^\circ$$

Also  $y = 90^\circ + 30^\circ = 120^\circ$

[Exterior angle property]

$$\therefore x + y + z = 90^\circ + 120^\circ + 150^\circ = 360^\circ$$

(b) Using angle sum property of a quadrilateral,



$$60^\circ + 80^\circ + 120^\circ + n = 360^\circ$$

$$\Rightarrow 260^\circ + n = 360^\circ$$

$$\Rightarrow n = 360^\circ - 260^\circ$$

$$\Rightarrow n = 100^\circ$$

Since sum of linear pair angles is  $180^\circ$ .

$$\therefore w + 100 = 180^\circ \quad \text{.....(i)}$$

$$x + 120^\circ = 180^\circ \quad \text{.....(ii)}$$

$$y + 80^\circ = 180^\circ \quad \text{.....(iii)}$$

$$z + 60^\circ = 180^\circ \quad \text{.....(iv)}$$

Adding eq. (i), (ii), (iii) and (iv),

$$\Rightarrow x + y + z + w + 100^\circ + 120^\circ + 80^\circ + 60^\circ$$

$$= 180^\circ + 180^\circ + 180^\circ + 180^\circ$$

$$\Rightarrow x + y + z + w + 360^\circ = 720^\circ$$

$$\Rightarrow x + y + z + w = 720^\circ - 360^\circ$$

$$\Rightarrow x + y + z + w = 360^\circ$$

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