

Properties of Triangles Ex 15.3 Q4

Answer:

Let us assume that A and B are the two interior opposite angles.

We know that $\angle A$ is equal to $\angle B$.

We also know that the sum of interior opposite angles is equal to the exterior angle.

Hence, we can say that:

$$\angle A + \angle B = 80^{\circ}$$

Or,

$$\angle A + \angle A = 80^{\circ} \quad (\because \angle A = \angle B)$$

$$2\angle A = 80^{\circ}$$

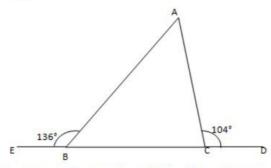
$$\angle A = \frac{80^{\circ}}{2} = 40^{\circ}$$

$$\angle \mathbf{A} = \angle \mathbf{B} = 40^{\circ}$$

Thus, each of the required angles is of 40°.

Properties of Triangles Ex 15.3 Q5

Answer:



In the given figure, ∠ABE and ∠ABC form a linear pair.

$$\therefore \angle ABE + \angle ABC = 180^{\circ}$$

$$\angle ABC = 180^{\circ} - 136^{\circ}$$

$$\angle ABC = 44^{\circ}$$

We can also see that ∠ACD and ∠ACB form a linear pair.

$$\therefore \angle ACD + \angle ACB = 180^{\circ}$$

$$\angle ACB = 180^{\circ} - 104^{\circ}$$

$$\angle ACB = 76^{\circ}$$

We know that the sum of interior opposite angles is equal to the exterior angle. Therefore, we can say that:

$$\angle BAC + \angle ABC = 104^{\circ}$$

$$\angle BAC = 104^{\circ} - 44 = 60^{\circ}$$

Thus,

$$\angle ACB = 76^{\circ}$$

and

$$\angle BAC = 60^{\circ}$$

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