



GEOMETRÍA

Tomo 2

5th
SECONDARY

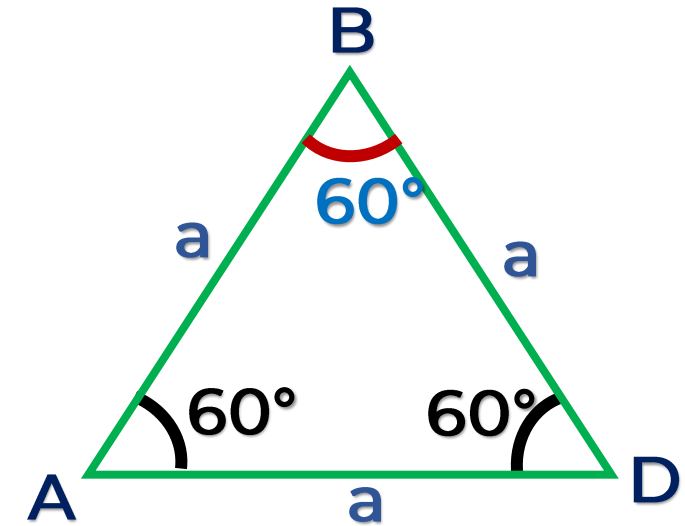
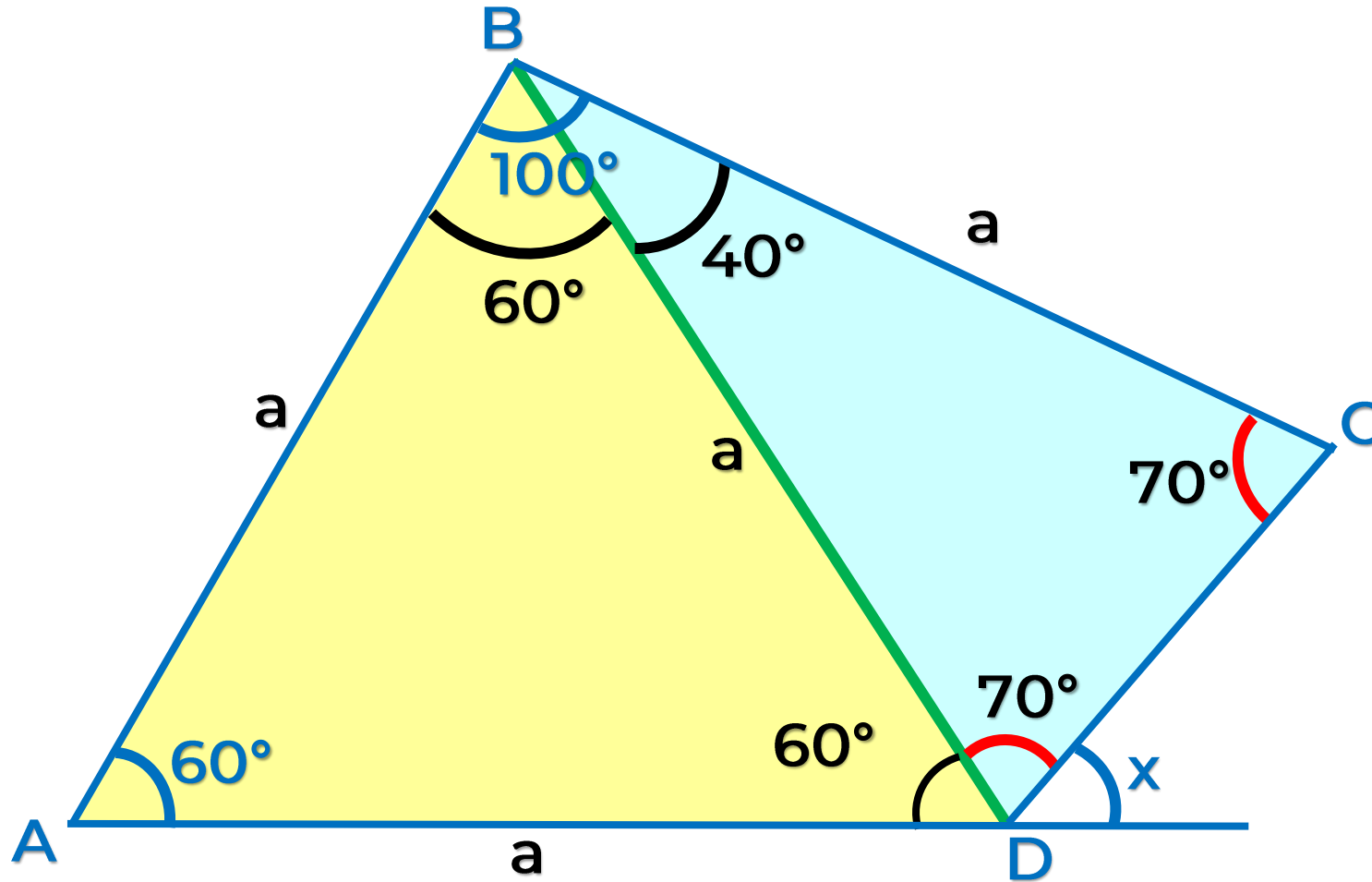
ASESORÍA



 **SACO OLIVEROS**



1. Halle el valor de x , si $AB = AD = BC$.



- $\triangle ABD$: EQUILÁTERO
- $\triangle DBC$: ISÓSCELES

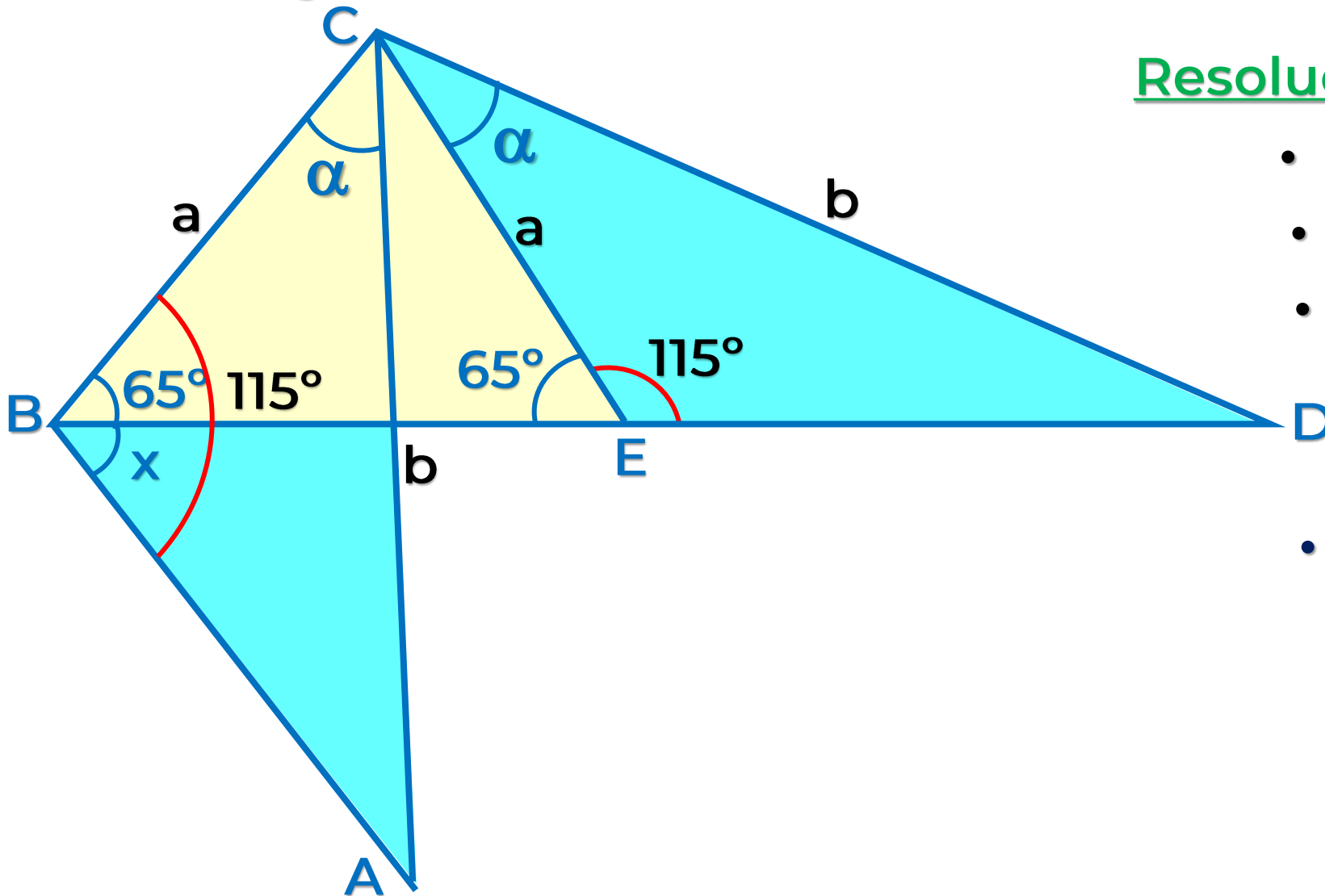
$$60^\circ + 70^\circ + x = 180^\circ$$

$$130^\circ + x = 180^\circ$$

$$x = 50^\circ$$



6. En la figura, $AC = CD$. Halle el valor de x .



Resolución

- Piden: x
- $\triangle BCE$: Isósceles
- $\triangle ABC \cong \triangle DEC$

L-A-L

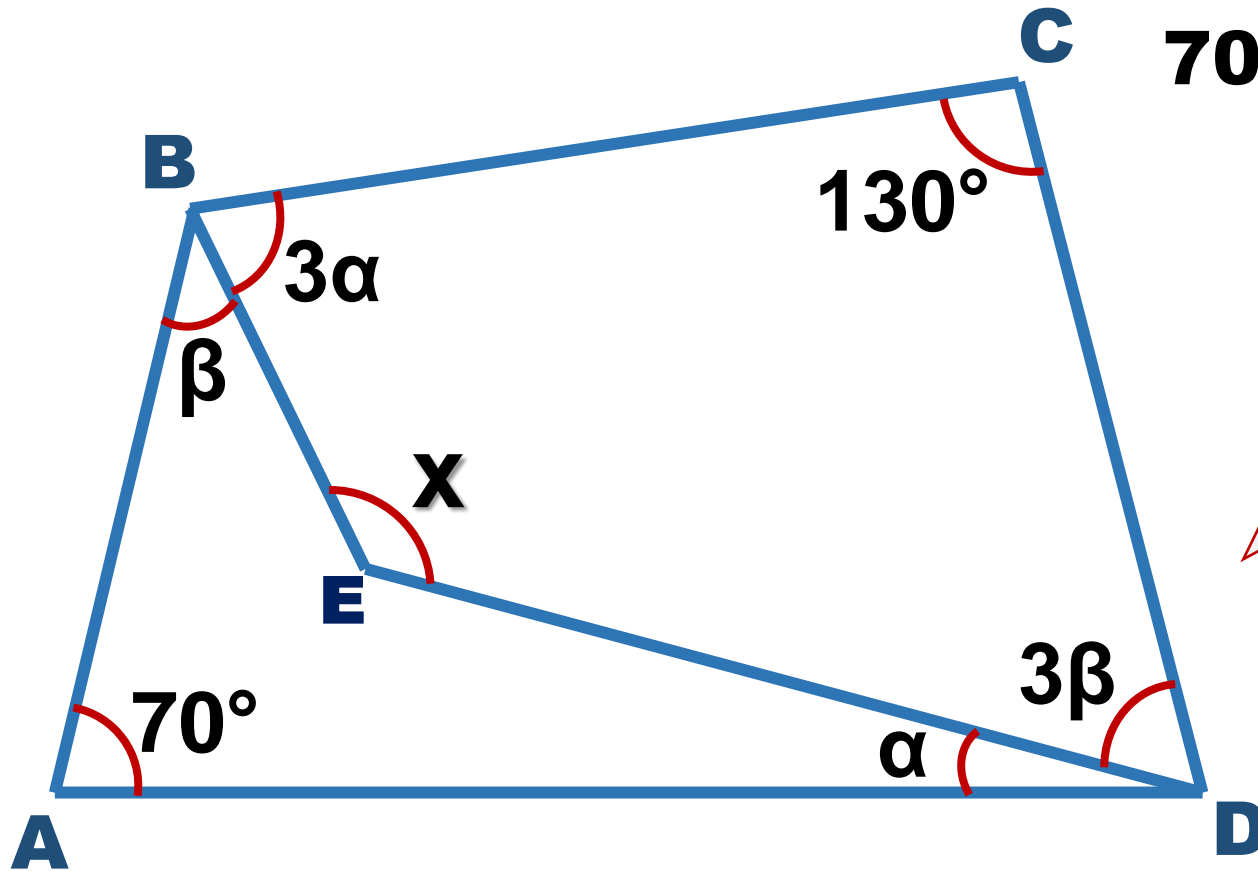
- Del gráfico

$$x + 65^\circ = 115^\circ$$

$$x = 50^\circ$$



3. En la figura, halle el valor de x .



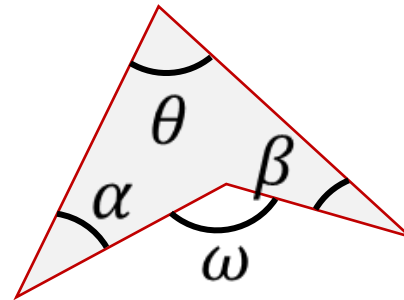
• ABCD :

$$70^\circ + \beta + 3\alpha + 130^\circ + 3\beta + \alpha = 360^\circ$$

$$4\alpha + 4\beta + 200^\circ = 360^\circ$$

$$\cancel{4\alpha} + \cancel{4\beta} = \cancel{160^\circ}$$

$$\alpha + \beta = 40^\circ$$



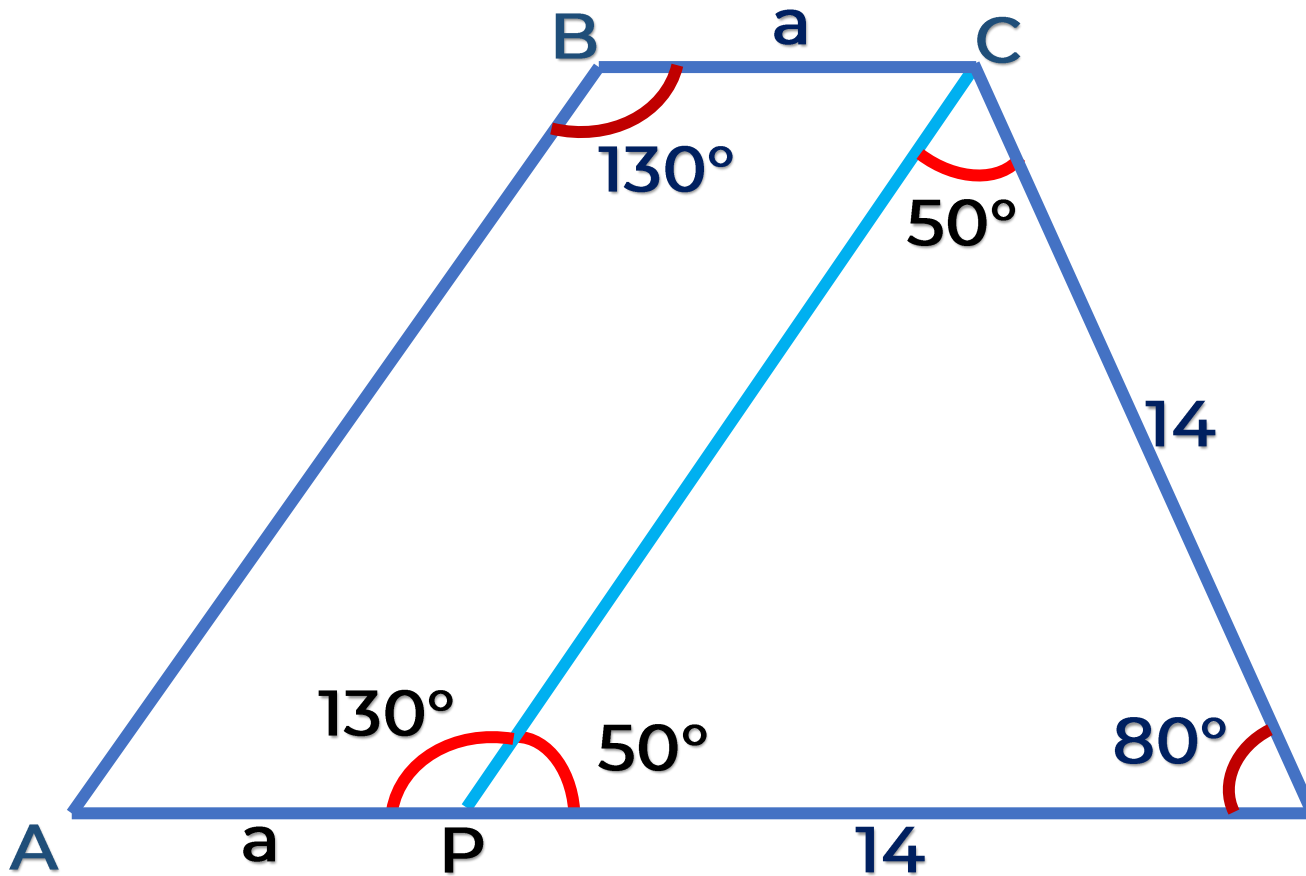
$$\omega = \alpha + \beta + \theta$$

• ABED : $x = 70^\circ + \underbrace{\beta + \alpha}_{40^\circ}$

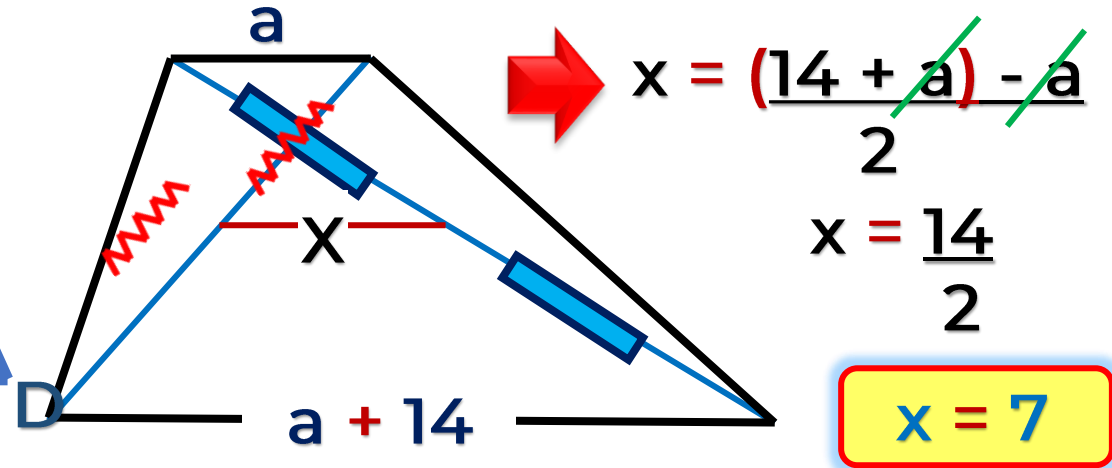
$$x = 110^\circ$$



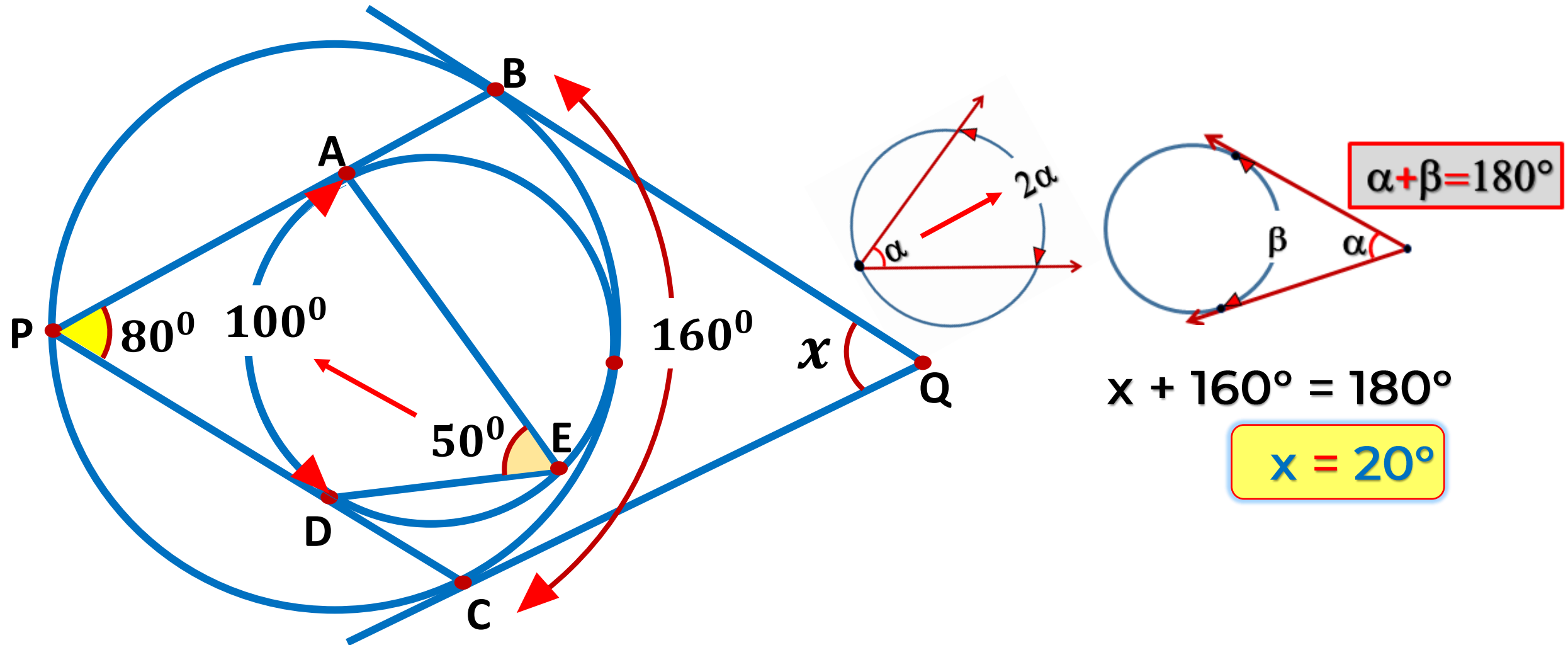
4. En el trapezio ABCD ($\overline{BC} \parallel \overline{AD}$), halle la medida del segmento que tiene por extremos a los puntos medios de las diagonales.



- Trazamos $\overline{CP} \parallel \overline{BA}$
- \square ABCP (PARALELOGRAMO)
- $\triangle CDP$: ISÓSCELES

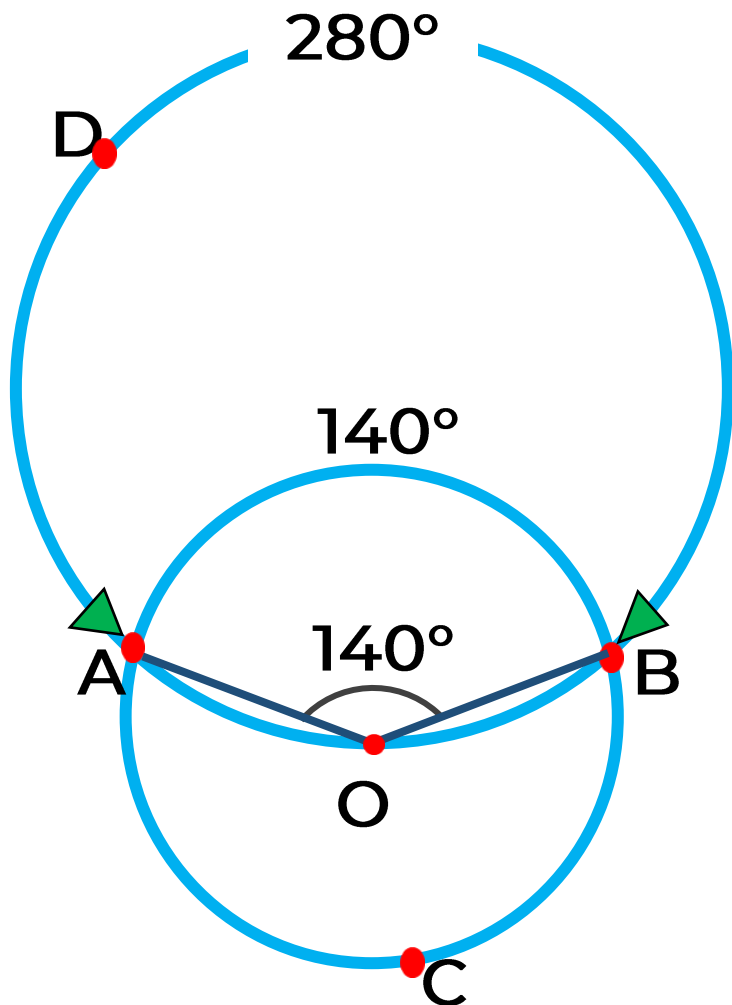


5. En la figura, A,B,C y D son puntos de tangencia. Halle el valor de x

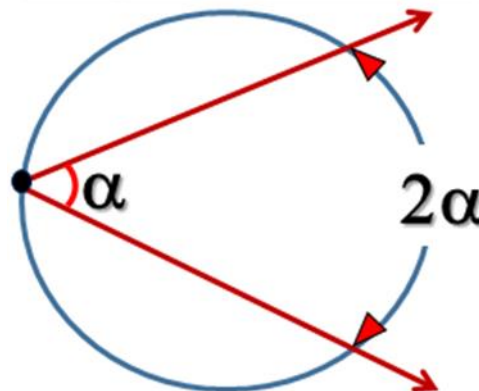




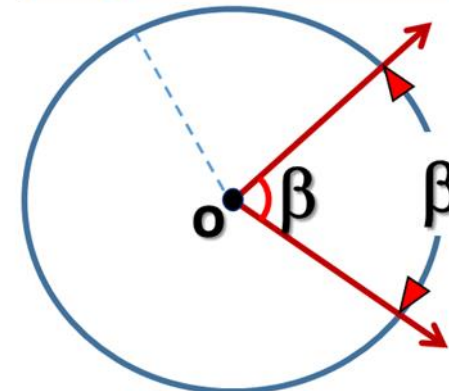
6. En la figura, O es centro, la $\widehat{ADB}=280^\circ$. Calcule la \widehat{ACB} .



Ángulo inscrito



Ángulo central

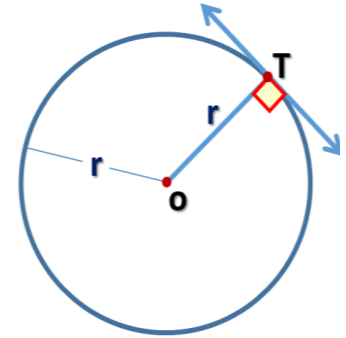
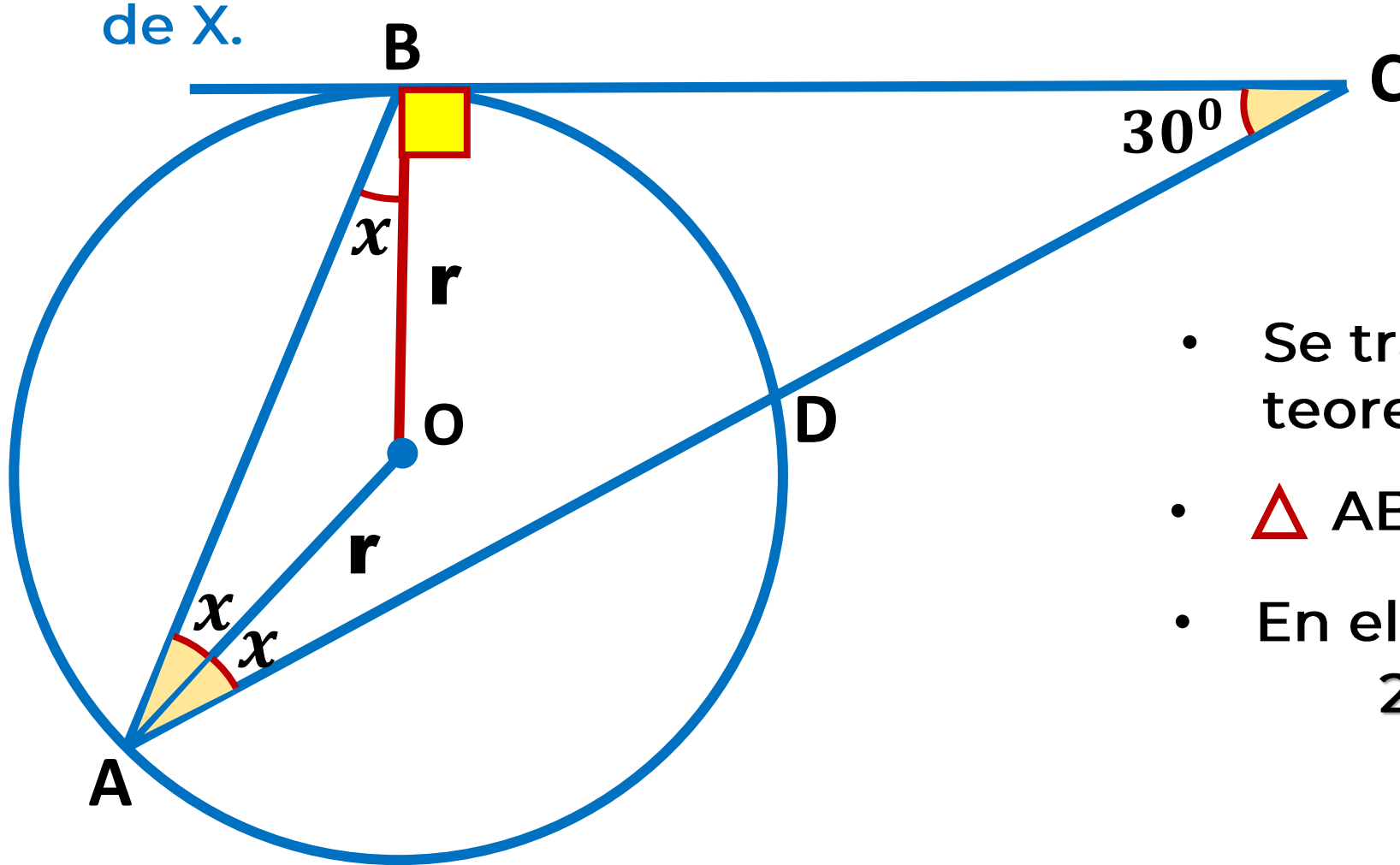


$$\widehat{mAB} = 140^\circ \Rightarrow 140^\circ + \widehat{mACB} = 360^\circ$$

$$\widehat{mACB} = 220^\circ$$



7. En la figura, si O es centro y B es punto de tangencia, halle el valor de X.



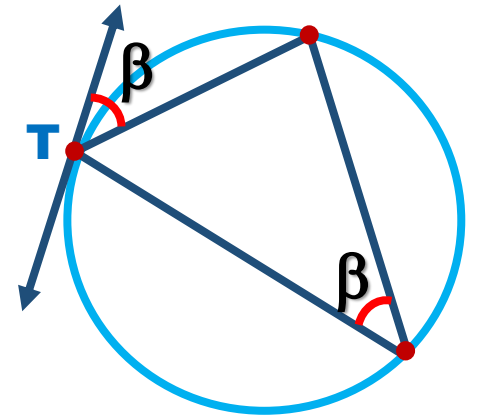
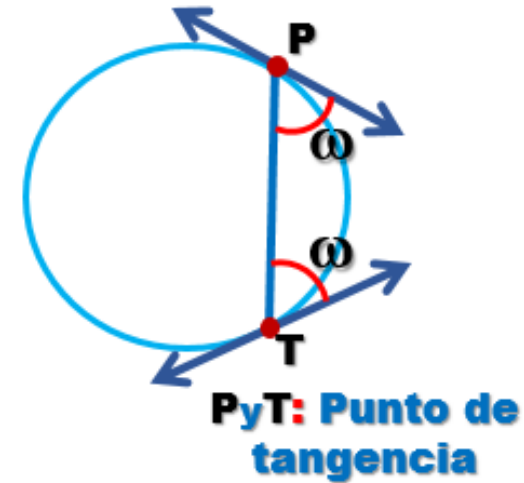
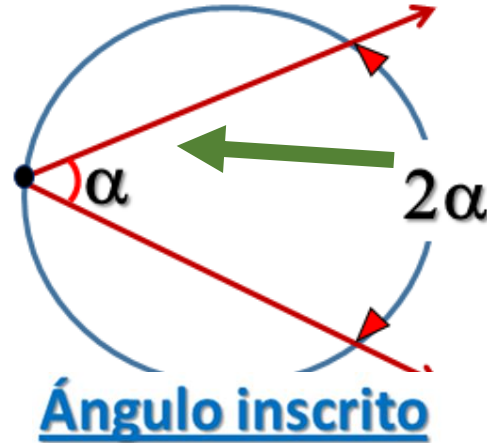
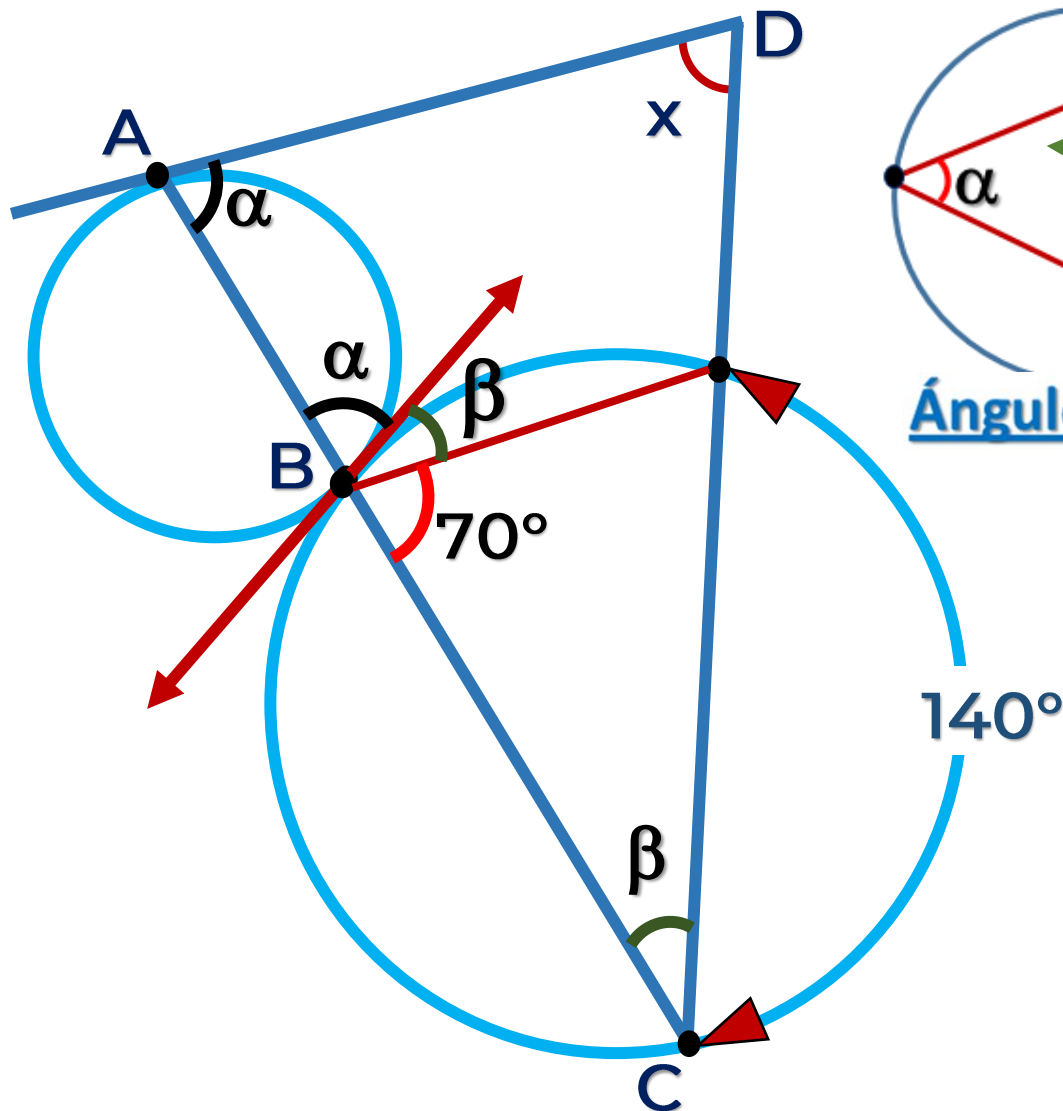
- Se traza el radio \overline{OB} y por teorema la $m\angle OBC = 90^\circ$
- $\triangle ABO$: ISÓSCELES
- En el $\triangle ABC$:

$$2x + x + 90^\circ + 30^\circ = 180^\circ$$

$$3x = 60^\circ$$

$$x = 20^\circ$$

8. Halle el valor de x , si A y B son puntos de tangencias.



- Del gráfico

$$\alpha + \beta + 70^\circ = 180^\circ$$

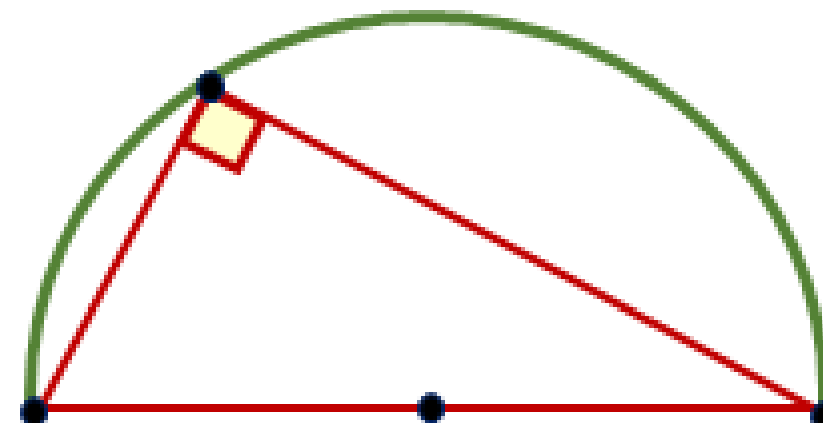
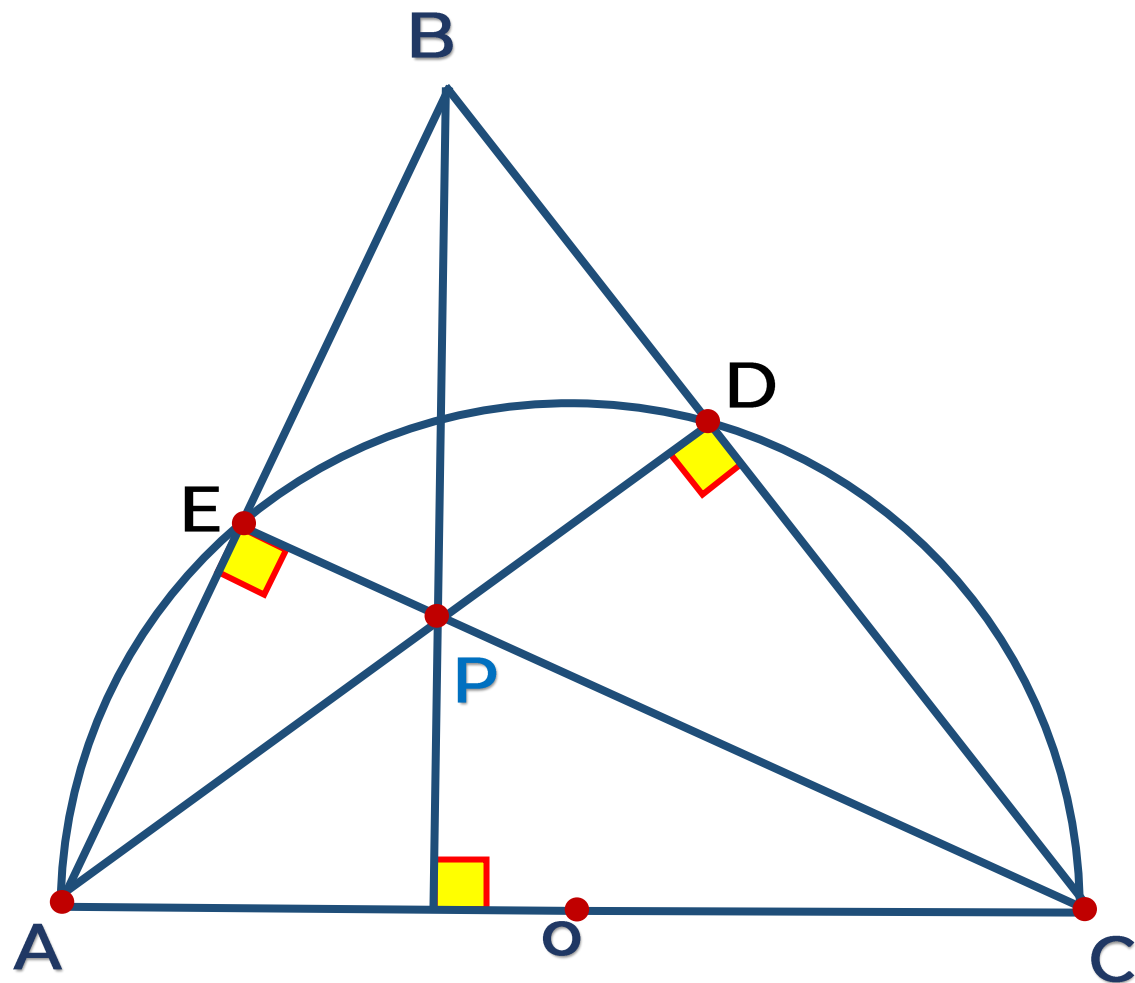
$$\alpha + \beta = 110^\circ$$

- $\triangle ADC$:

$$\underbrace{\alpha + \beta}_{110^\circ} + x = 180^\circ$$

$$x = 70^\circ$$

10. En la figura O es centro, indique que punto notable es P del triángulo ABC.



- \overline{CE} : Altura
- \overline{AD} : Altura

P: ORTOCENTRO del $\triangle ABC$