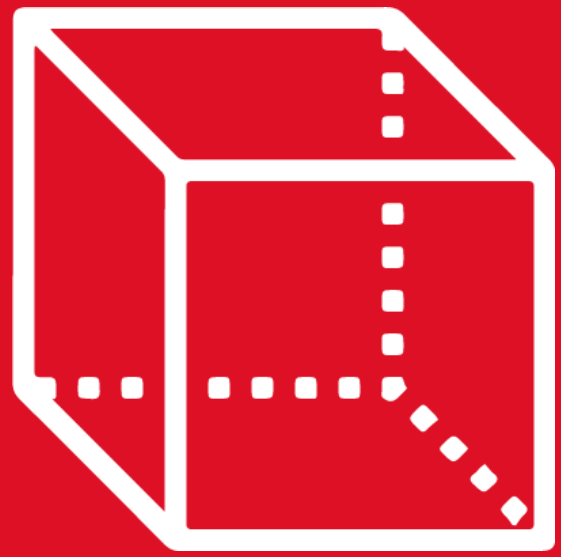
GEOMETRÍA

Tomo 2

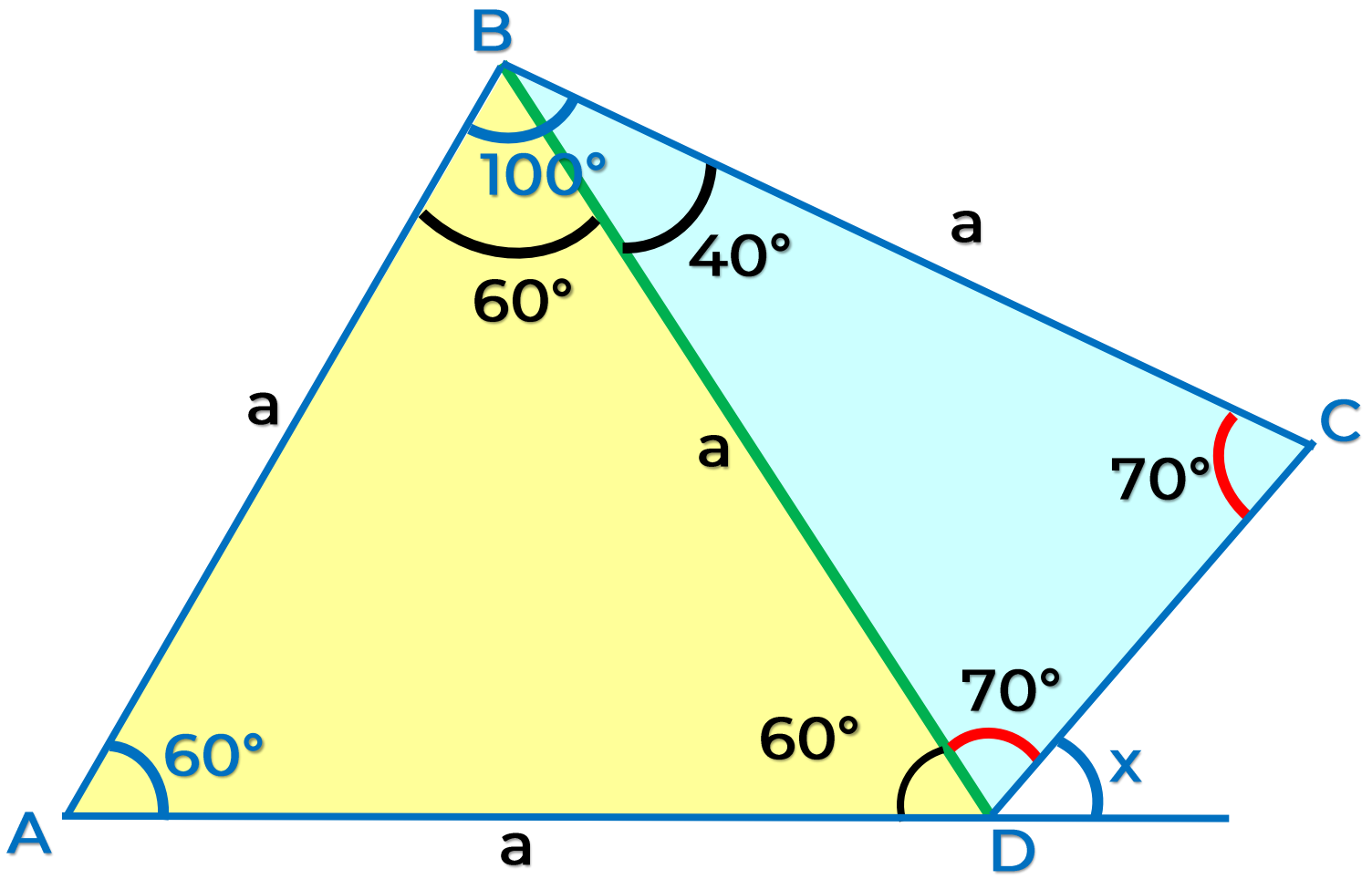


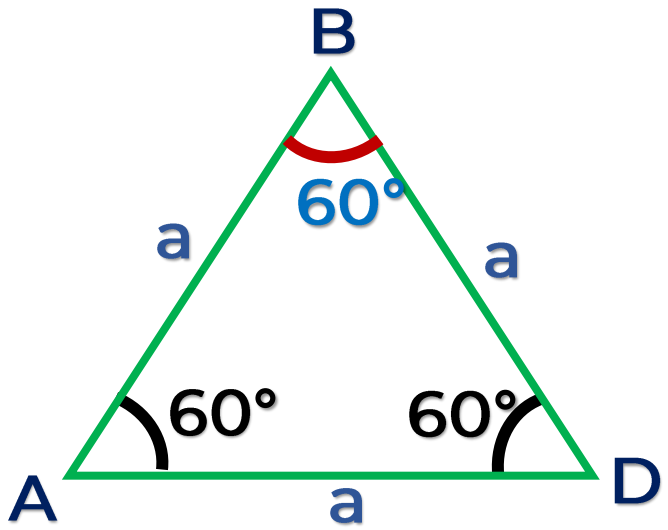
5th
SECONDARY

ASESORÌA

SACO OLIVEROS

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





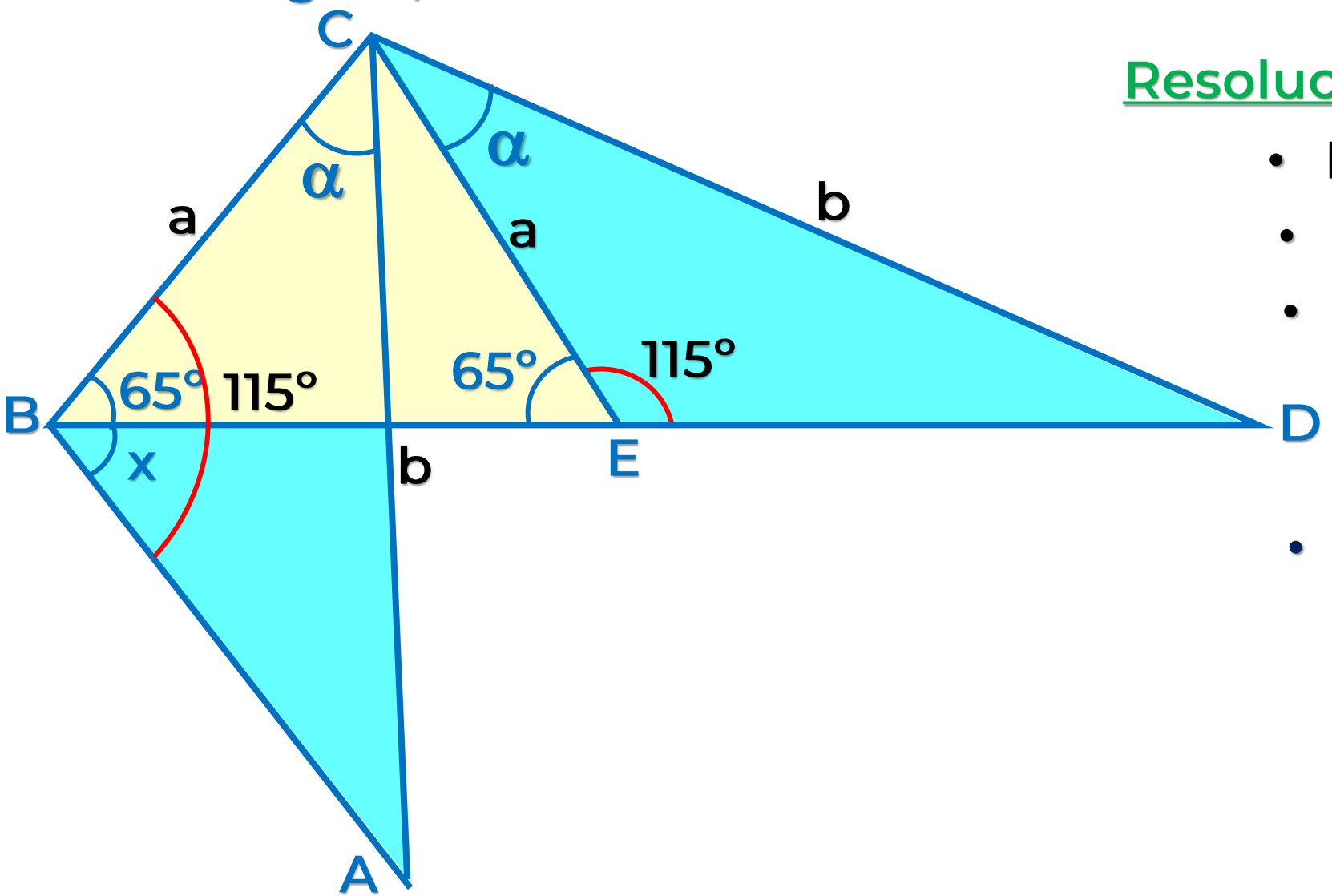
- ΔABD : EQUILÁTERO
- ΔDBC : ISÓSCELES

$60° + 70° + x = 180°$

$130° + x = 180°$

$x = 50°$

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



Resolución

- Piden: x
- ΔBCE: Isósceles
- Δ ABC ≅ Δ DEC

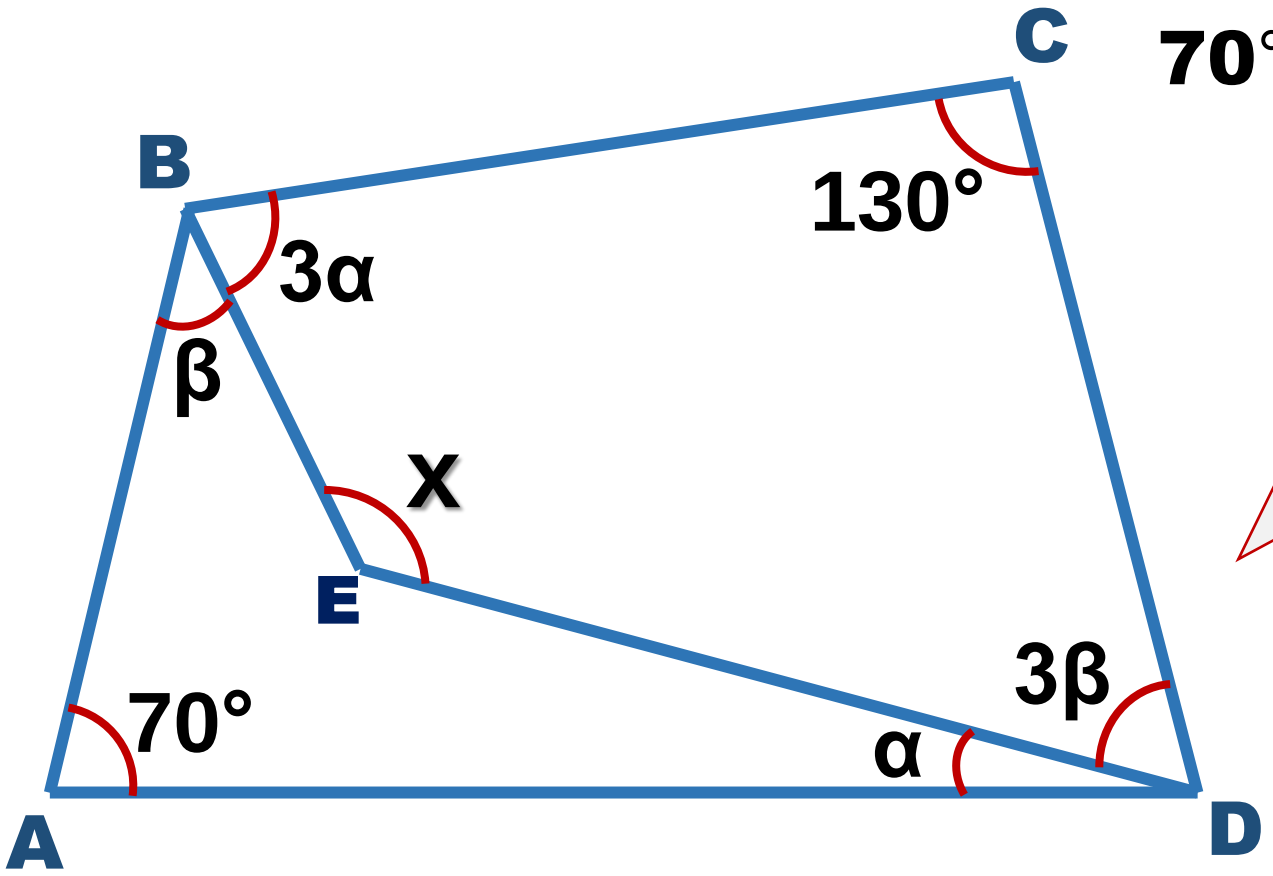
L-A-L

- Del gráfico

$x + 65° = 115°$

$x = 50°$

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



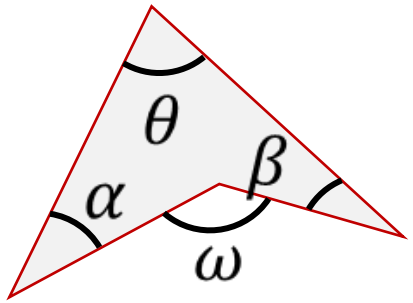
- ABCD :

$$70° + \beta + 3\alpha + 130° + 3\beta + \alpha = 360°$$

$$4\alpha + 4\beta + 200° = 360°$$

$$4\alpha + 4\beta = 160°$$

$$\alpha + \beta = 40°$$



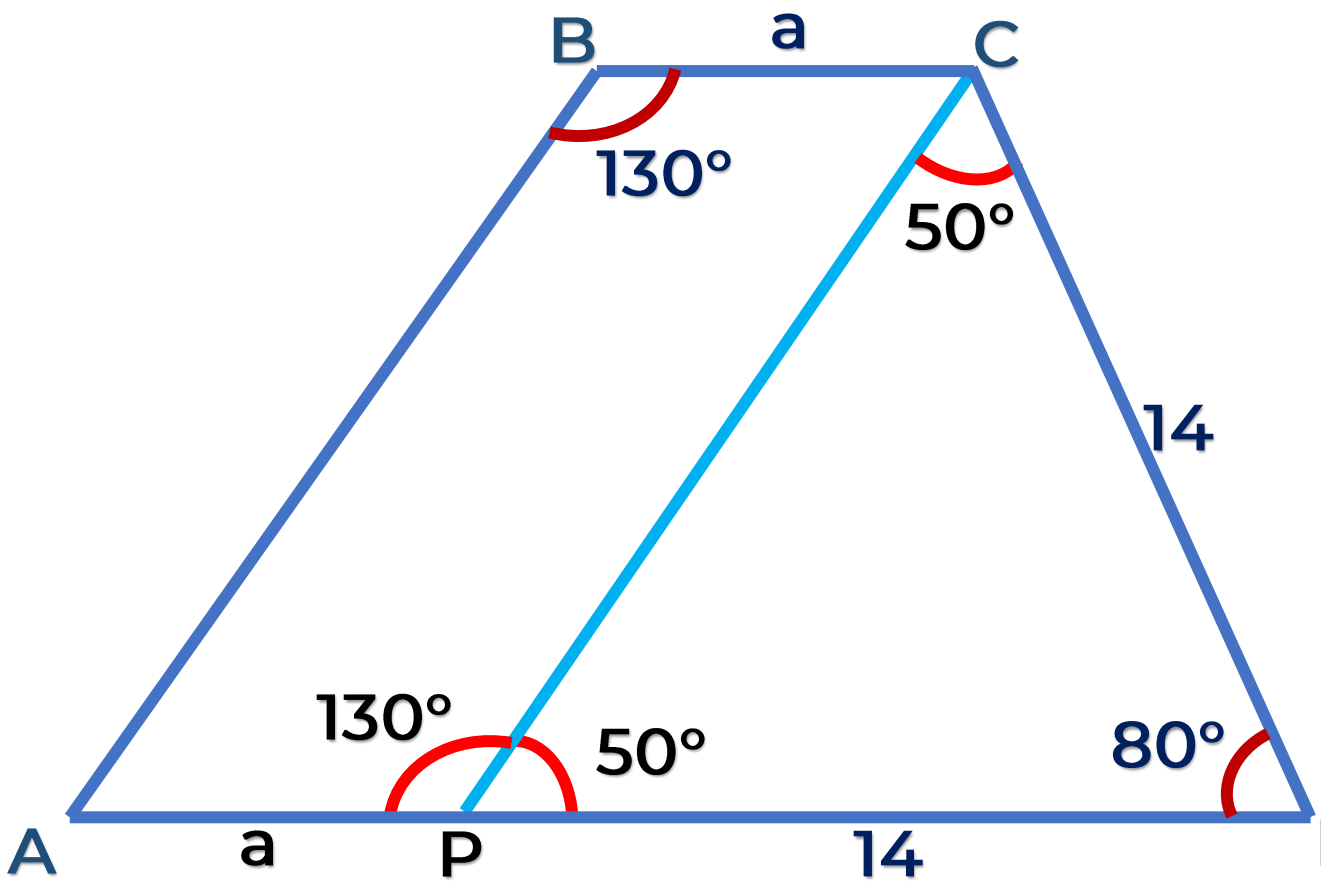
$$\omega = \alpha + \beta + \theta$$

- ABED : $x = 70° + \beta + \alpha$

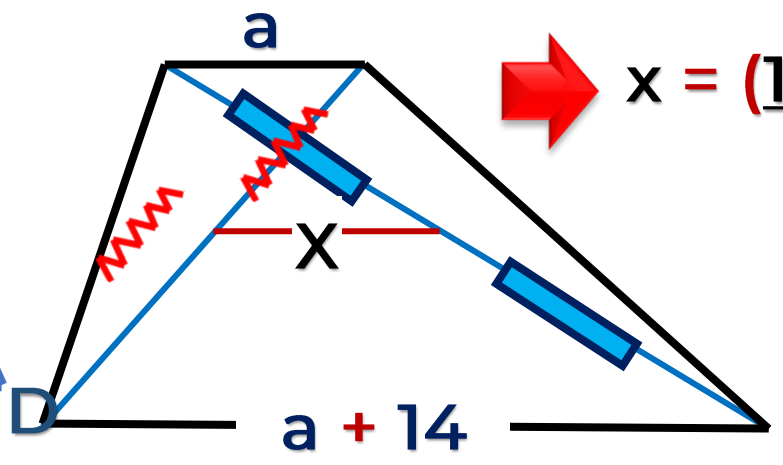
40°

$x = 110°$

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



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

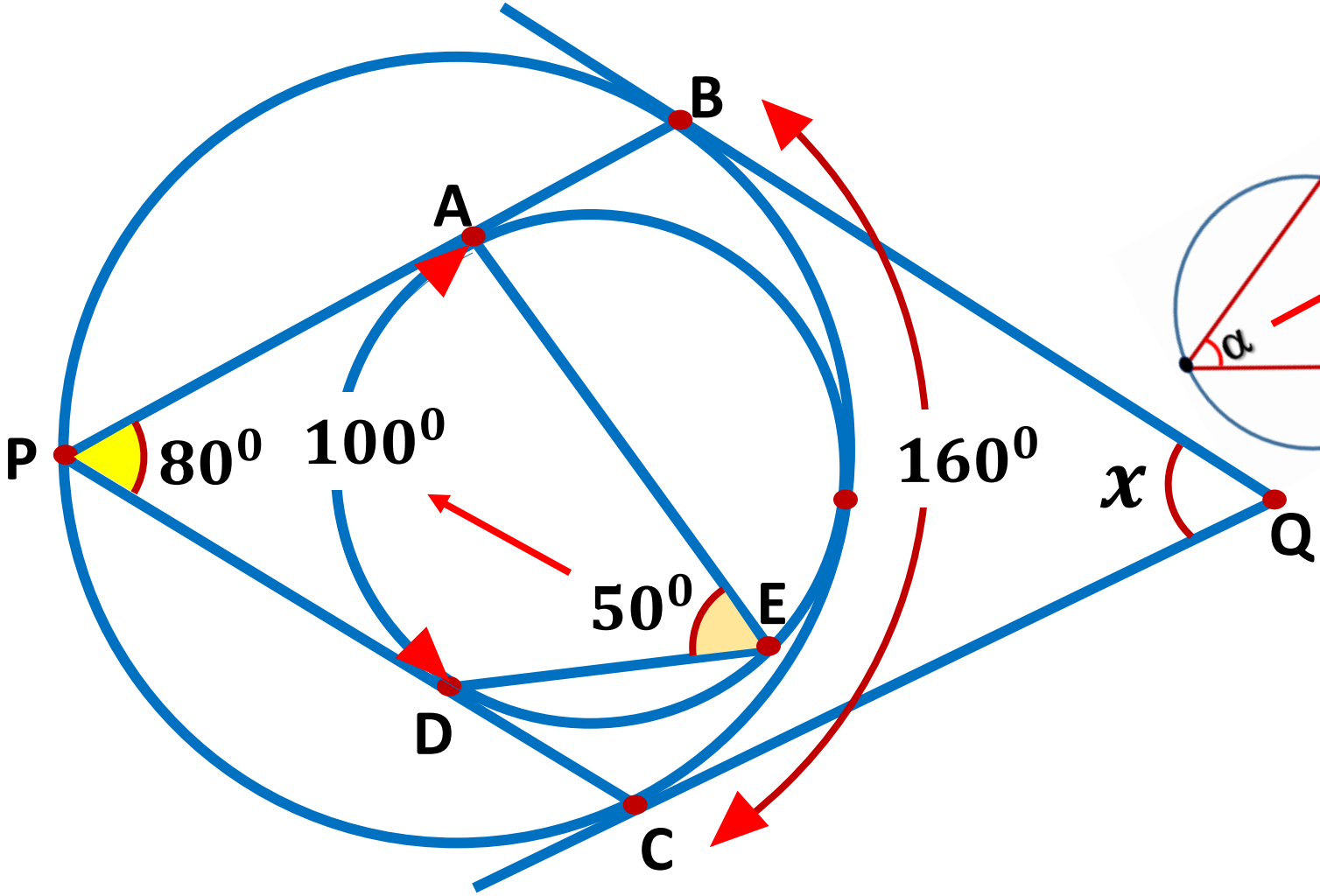


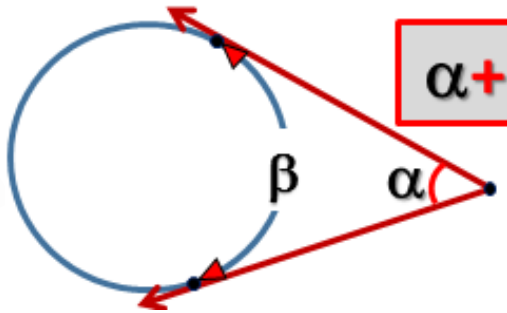
$$x = \frac{(14 + a) - a}{2}$$

$$x = \frac{14}{2}$$

$$x = 7$$

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



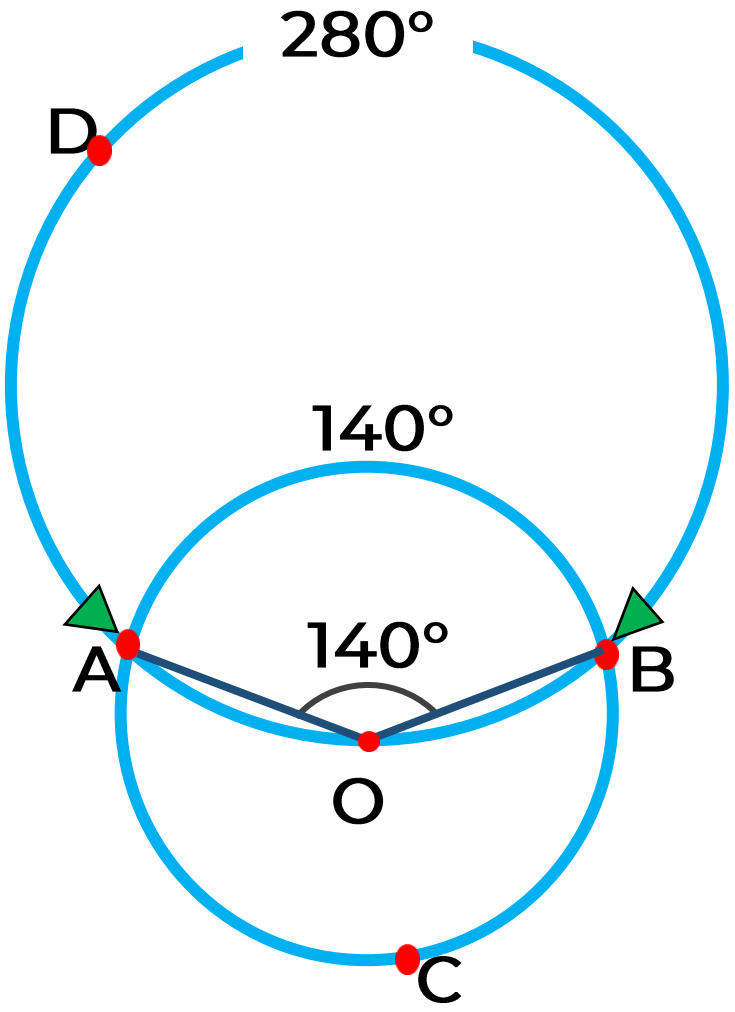


$\alpha+\beta=180°$

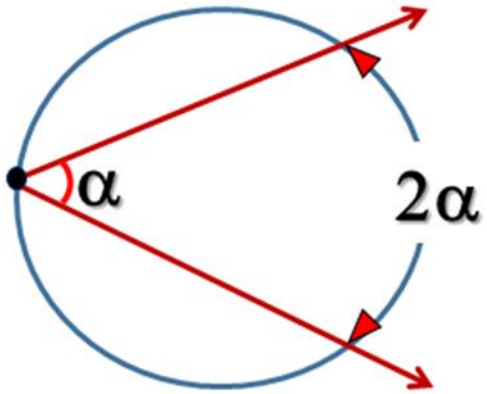
$x + 160° = 180°$

$x = 20°$

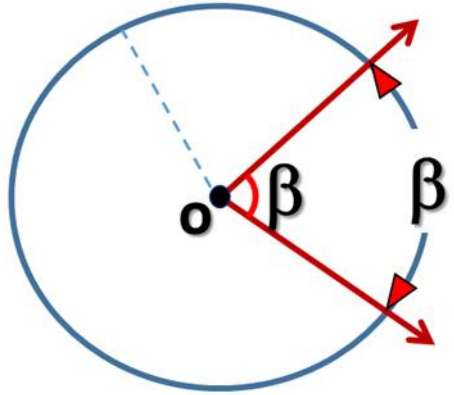
6. En la figura, O es centro, la $\overset{\frown}{mADB}=280°$. Calcule la $\overset{\frown}{mACB}$.



Ángulo inscrito



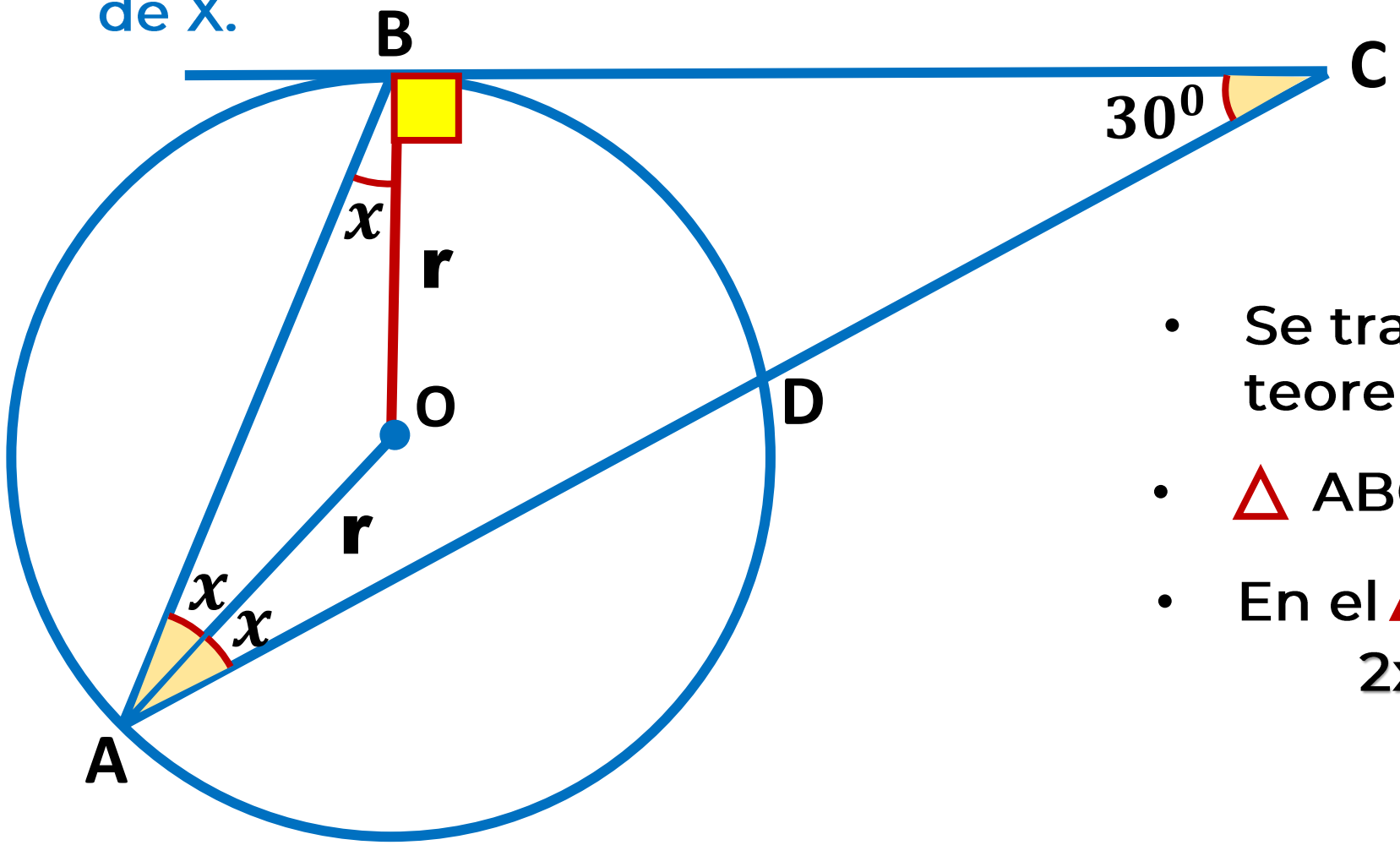
Ángulo central

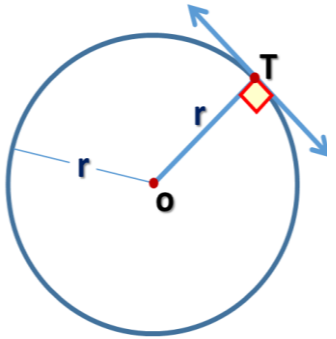


$\overset{\frown}{mAB} = 140° \Rightarrow 140° + \overset{\frown}{mACB} = 360°$

$\overset{\frown}{mACB} = 220°$

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





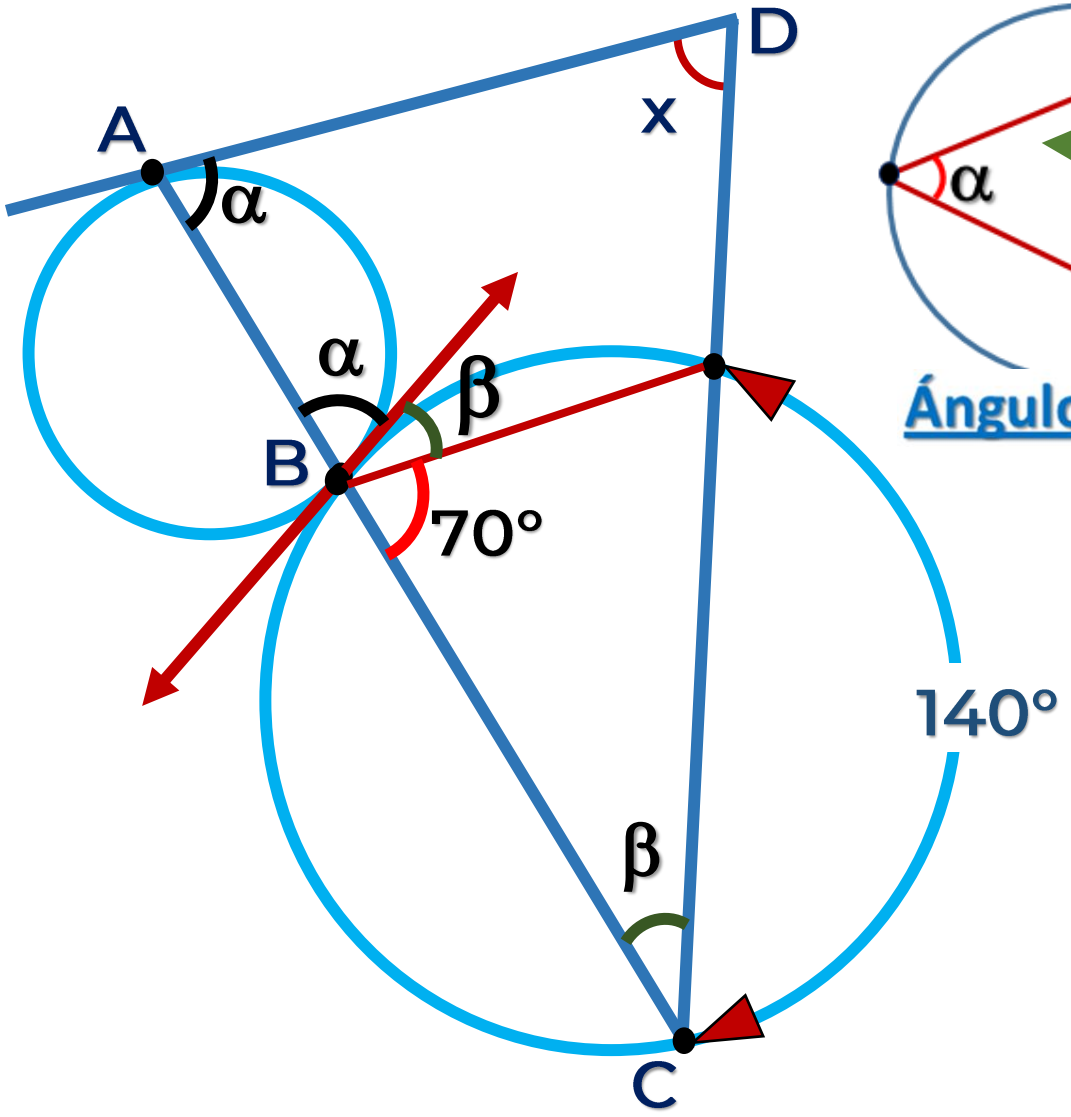
- Se traza el radio $\overline{OB}$ y por teorema la $m\measuredangle OBC = 90^0$
- $\triangle$ ABO:ISÓSCELES
- En el $\triangle$ ABC:

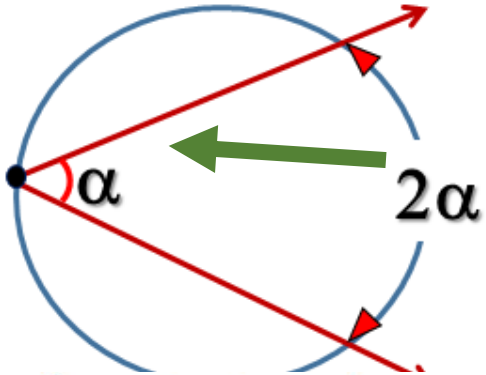
$$2x + x + 90° + 30° = 180°$$

$$3x = 60°$$

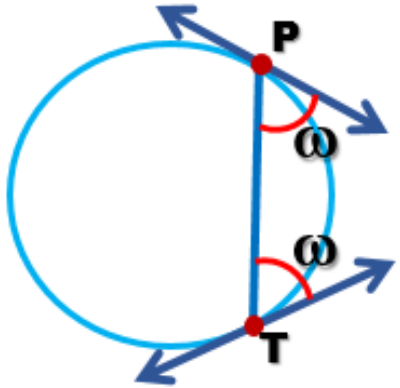
$$x = 20°$$

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

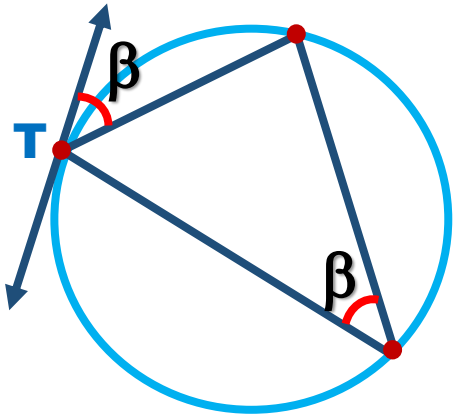




Ángulo inscrito



PyT: Punto de tangencia



- Del gráfico

$$\alpha + \beta + 70° = 180°$$

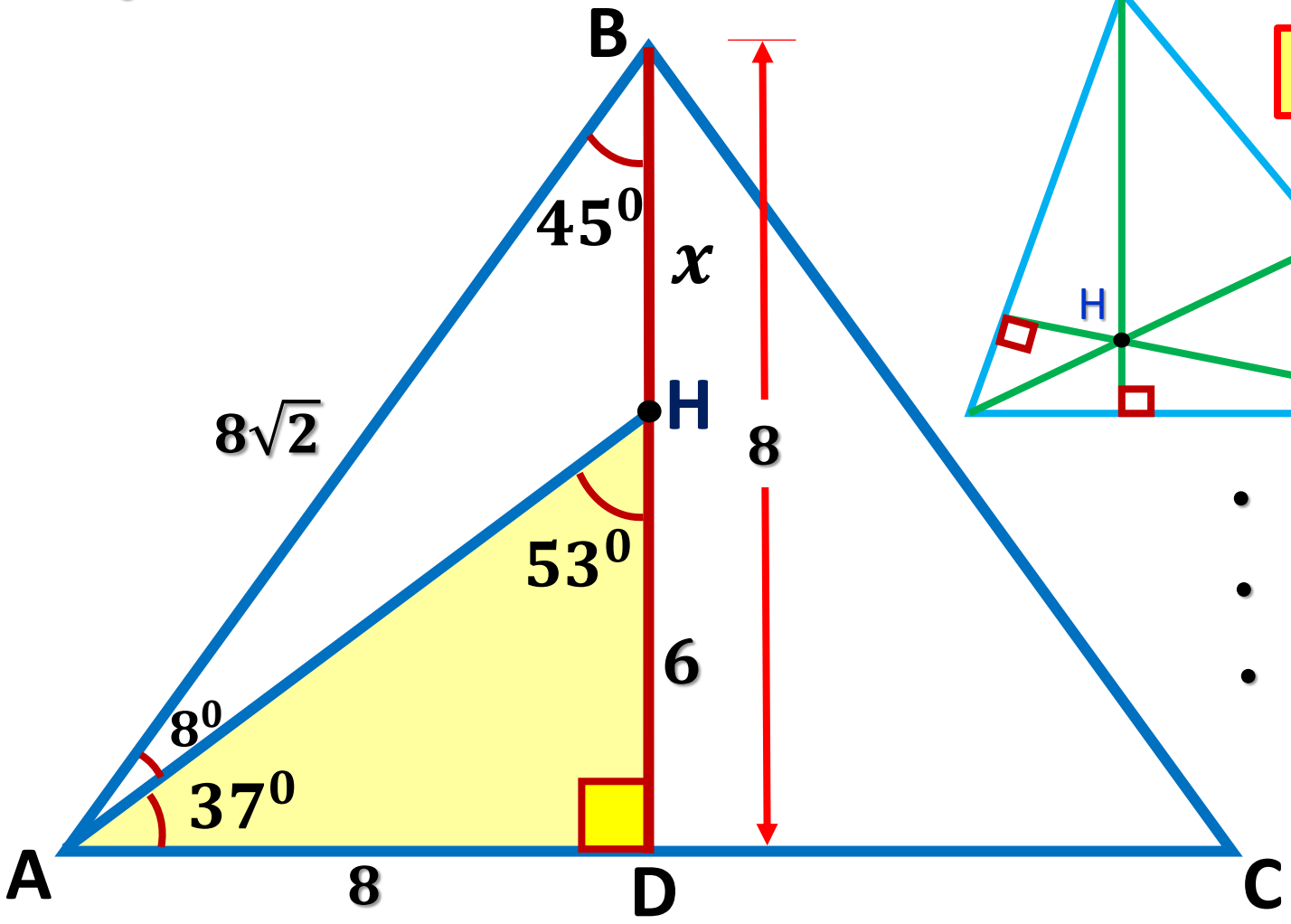
$$\alpha + \beta = 110°$$

- Δ ADC :

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

$$x = 70°$$

9. En un triángulo acutángulo ABC de ortocentro H , AB = $8\sqrt{2}$, m∢BAH = 8^0 y m∢HAC = 37^0. Halle BH.



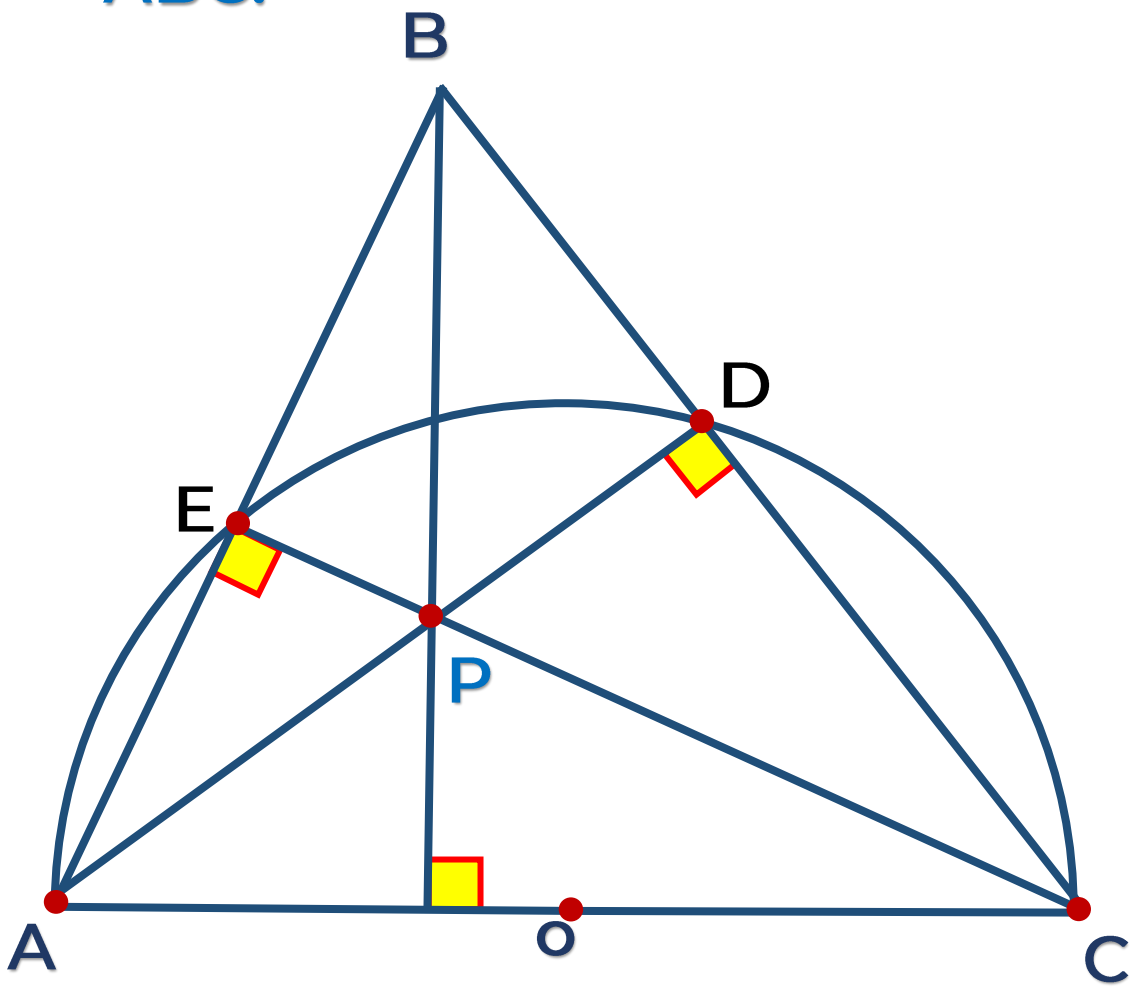
H:Ortocentro

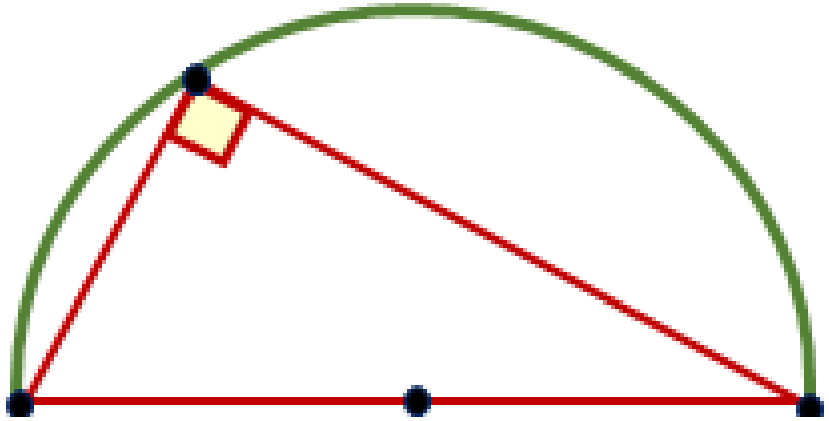
- Se prolonga $\overline{BH}$ hasta D
- Por △ notables de 45° y 45°.
- Por △ notables de 37° y 53°.
- Luego en $\overline{BD}$:

➡ x + 6 = 8

x = 2

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 ΔABC