GEOMETRÍA

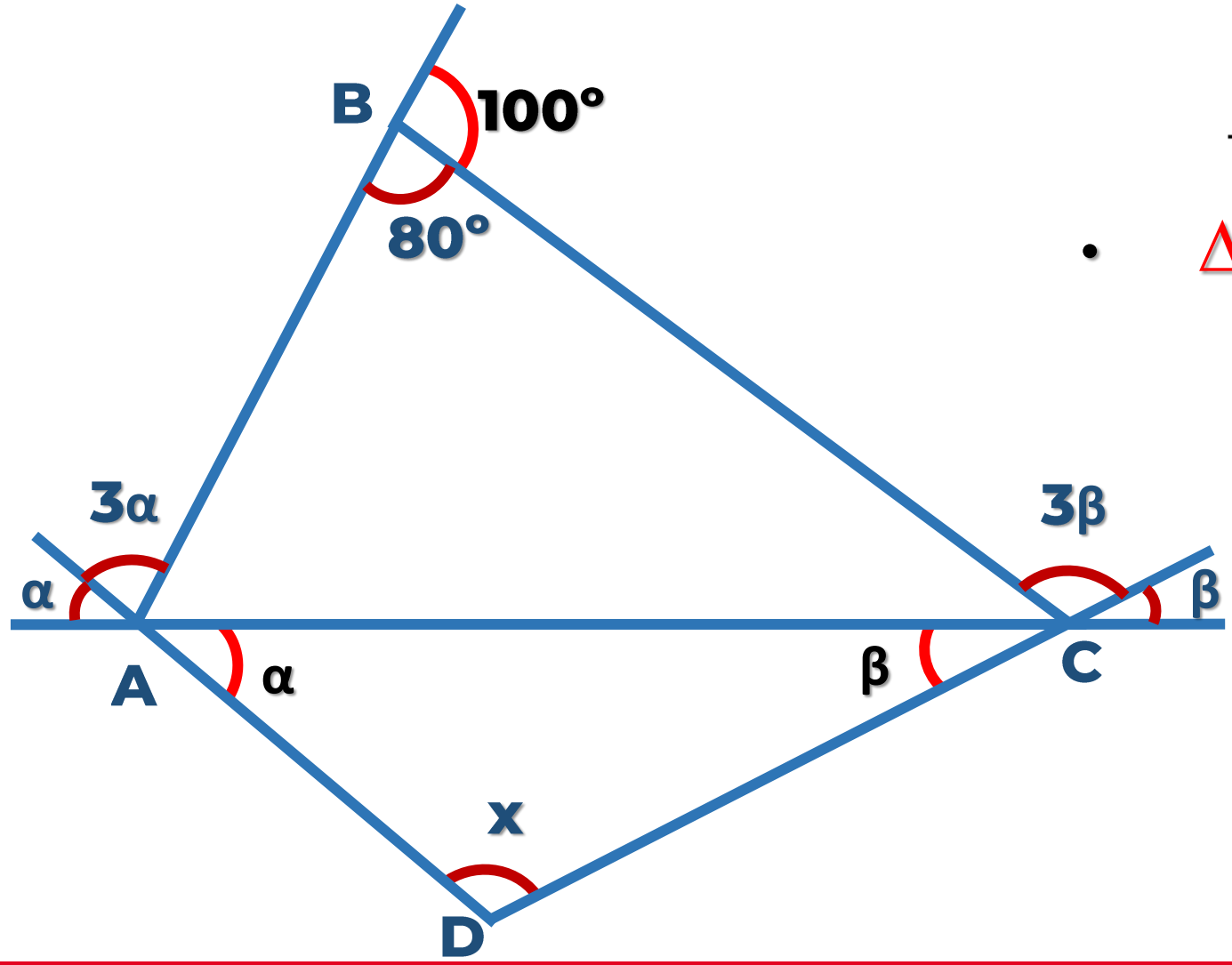
1er bimestre

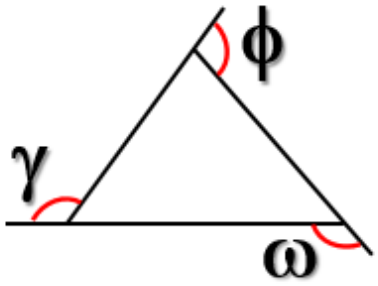
4st
SECONDARY

Asesoría

SACO OLIVEROS

1. Halle el valor de *x*.



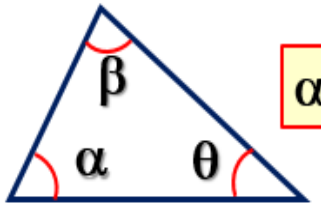


$\phi + \omega + \gamma = 360°$

- Δ ABC : $4\alpha + 4\beta + 100° = 360°$

$4\alpha + 4\beta = 260°$

$\alpha + \beta = 65°$

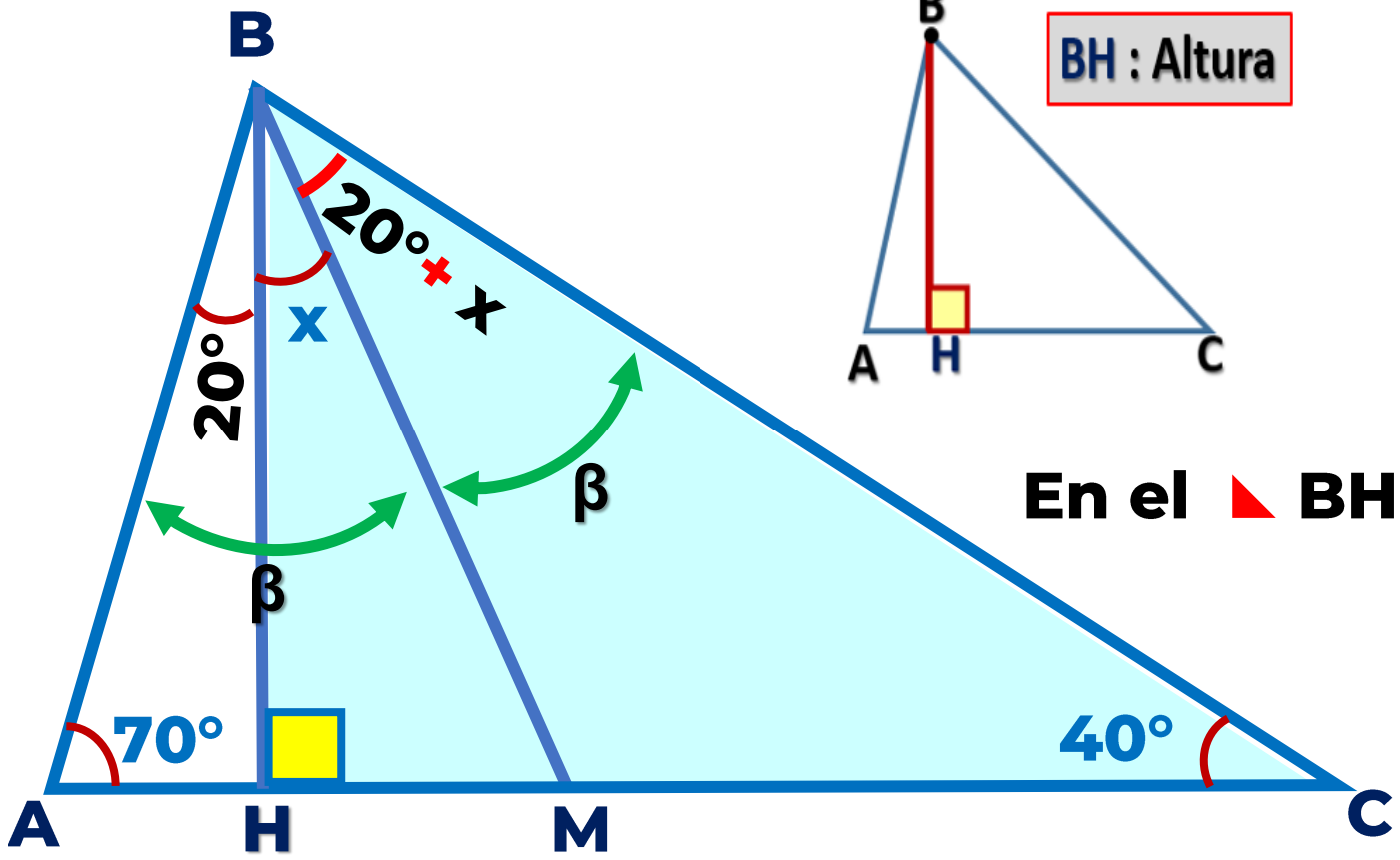


$\alpha + \beta + \theta = 180°$

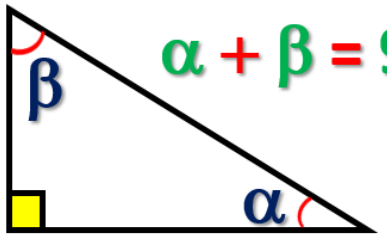
- Δ ACD : $\underbrace{\alpha + \beta}_{65°} + x = 180°$

$x = 115°$

2. Halle el valor de x , si $\overline{BH}$ y $\overline{BM}$ son altura y bisectriz respectivamente de triángulo ABC.

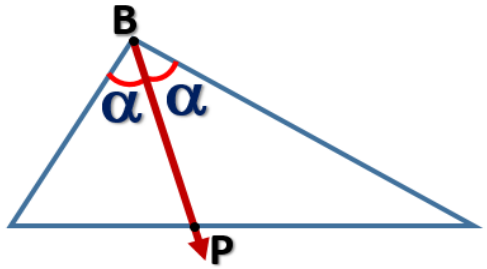


BH : Altura



$\alpha + \beta = 90°$

$\overrightarrow{BP}$: Bisectriz Interior



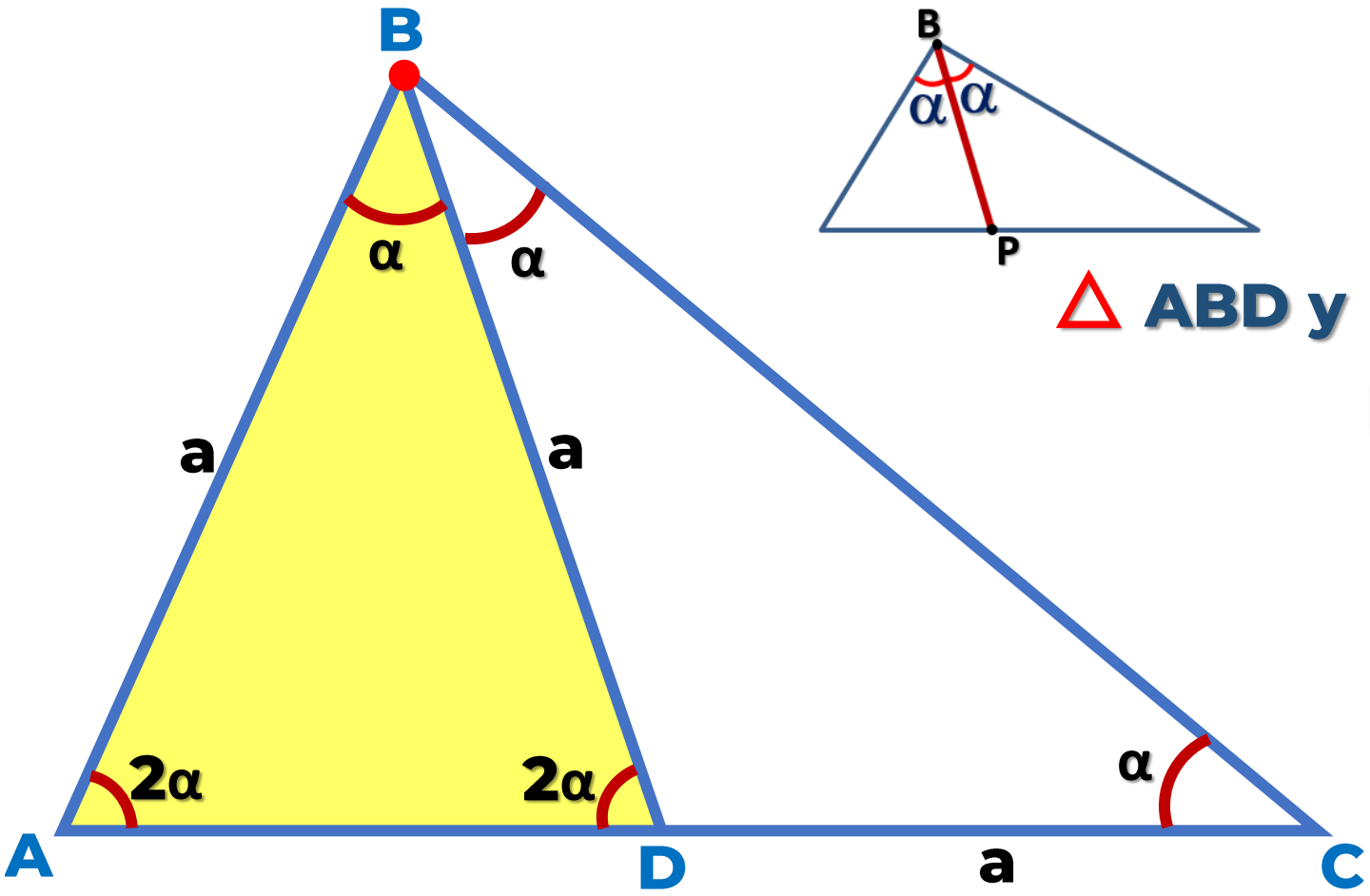
En el ◣ BHC : ➡ $x + 20° + x + 40° = 90°$

$2x + 60° = 90°$

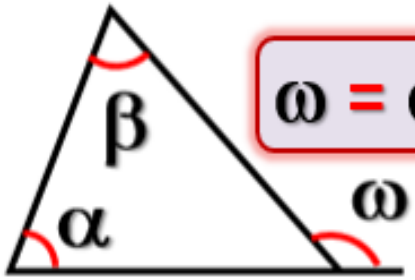
$2x = 30°$

$x = 15°$

3. En la figura, AB = BD = CD, además $\overline{BD}$ es bisectriz del △ ABC. Calcule la m∡BAD



$\overline{BP}$: Bisectriz Interior



$\omega = \alpha + \beta$

△ ABD y △ BCD : ISÓSCELES

$\alpha + 2\alpha + 2\alpha = 180°$

$5\alpha = 180°$

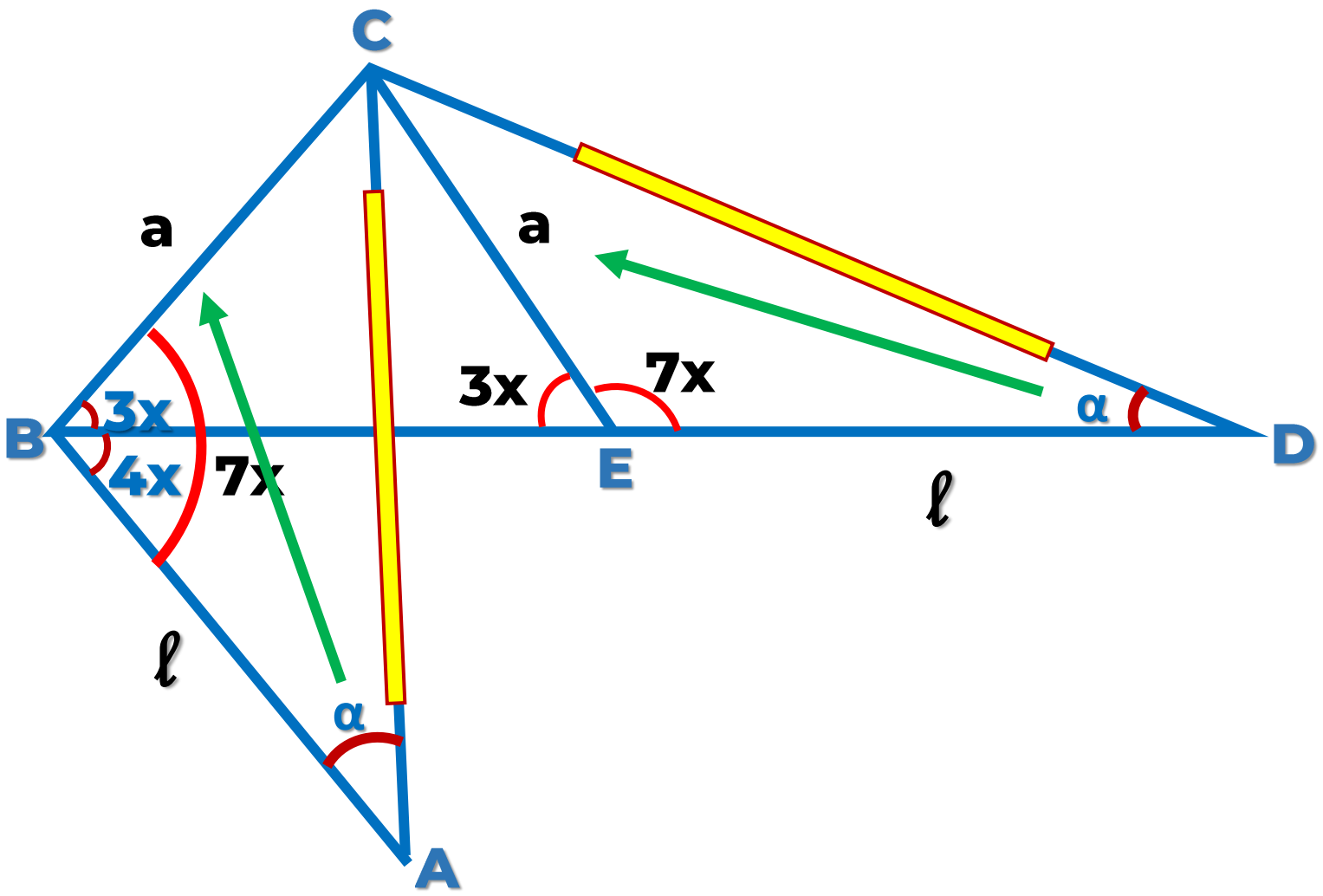
$\alpha = 36°$

Nos piden

$m\measuredangle BAD = 2\,(36°)$

$m\measuredangle BAD = 72°$

4. En la figura, halle el valor de x si AB = ED y AC = CD.



- $\triangle ABC \cong \triangle CDE$

L-A-L

- El $\triangle BCE$: Isósceles

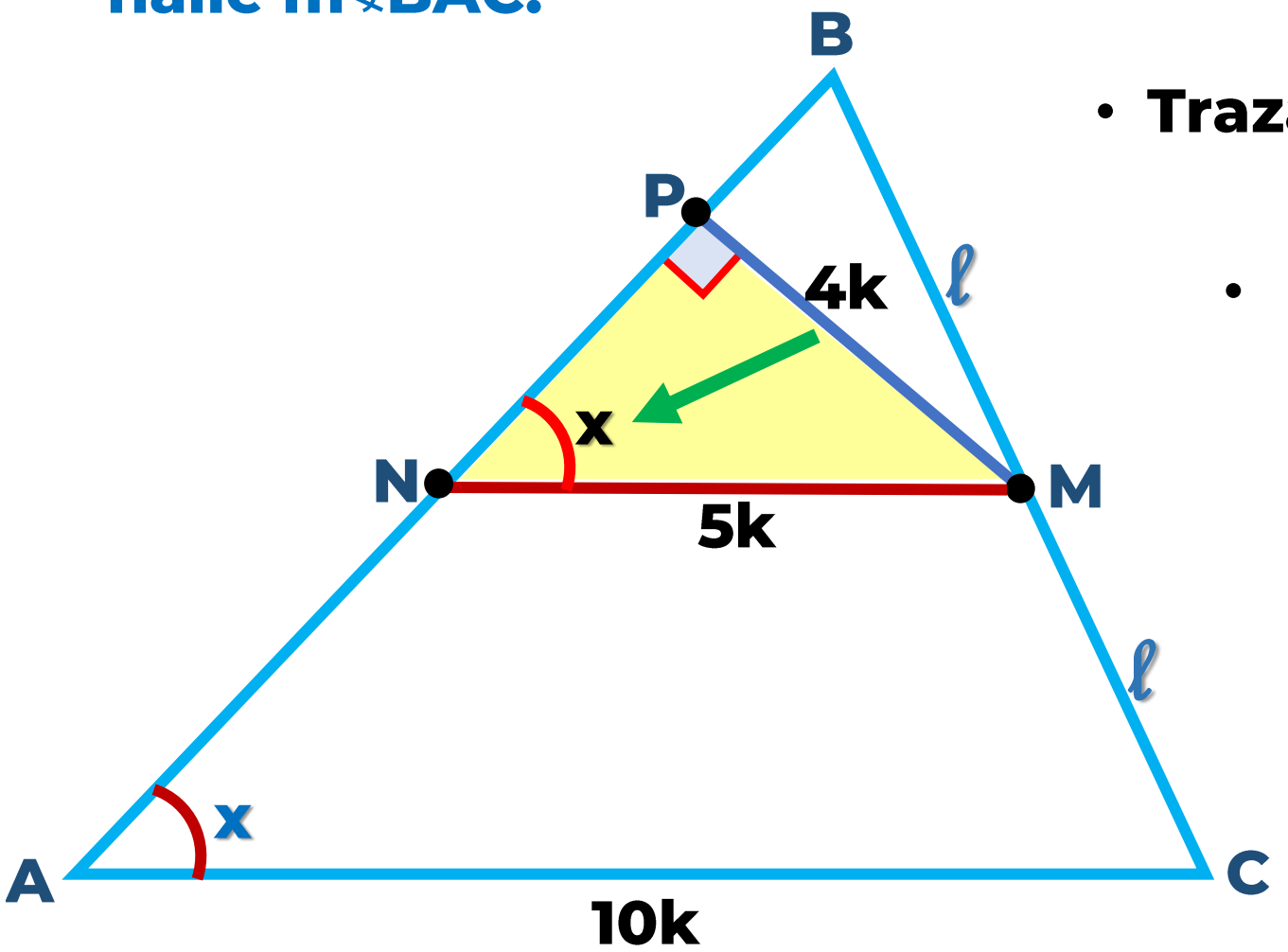
Del gráfico

$3x + 7x = 180°$

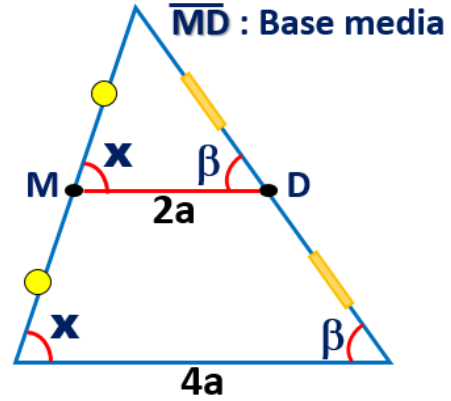
$10x = 180°$

$x = 18°$

5. En el triángulo ABC, M es punto medio de $\overline{BC}$, PM = 4k y AC = 10k, halle m∢BAC.



- **Trazamos $\overline{MN}$ paralela a $\overline{AC}$**
- **$\overline{MN}$: Base media**

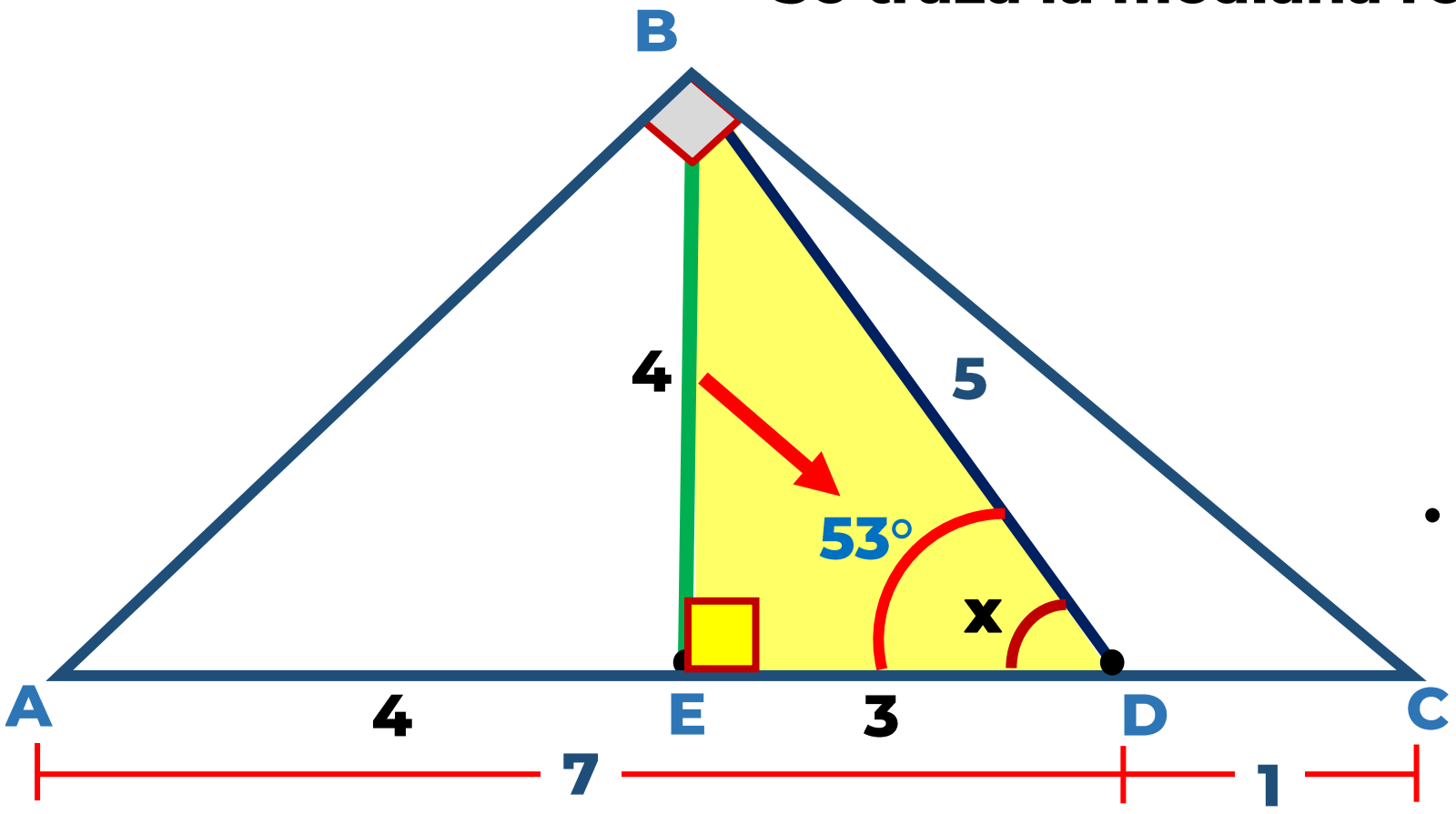


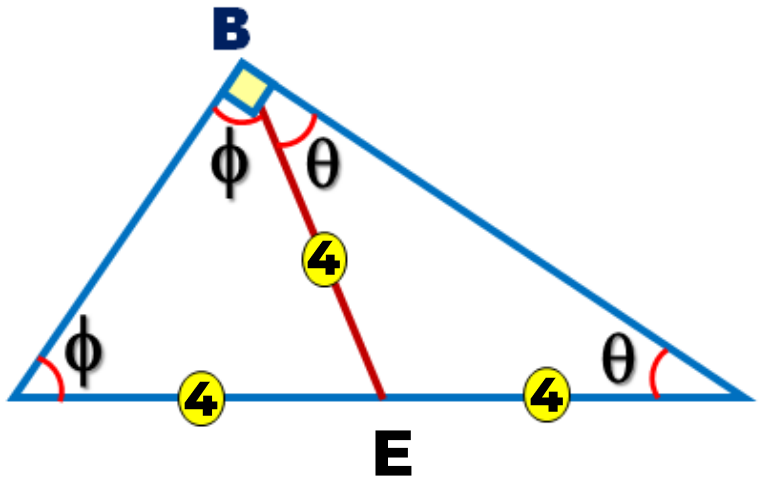
NPM: Notable de 37°y 53°

x = 53°

6. En un triángulo rectángulo ABC recto en B, en $\overline{AC}$ se ubican el punto D, de modo que: respectivamente, AD = 7, DC = 1 y BD = 5. Halle la m∡BDA.

Se traza la mediana relativa a la hipotenusa $\overline{BE}$.

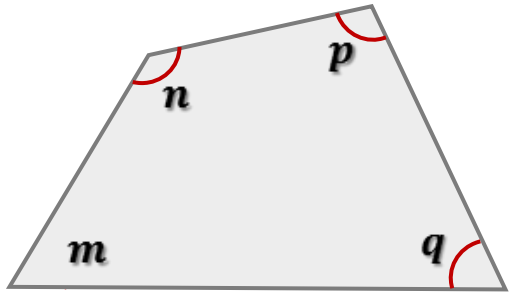




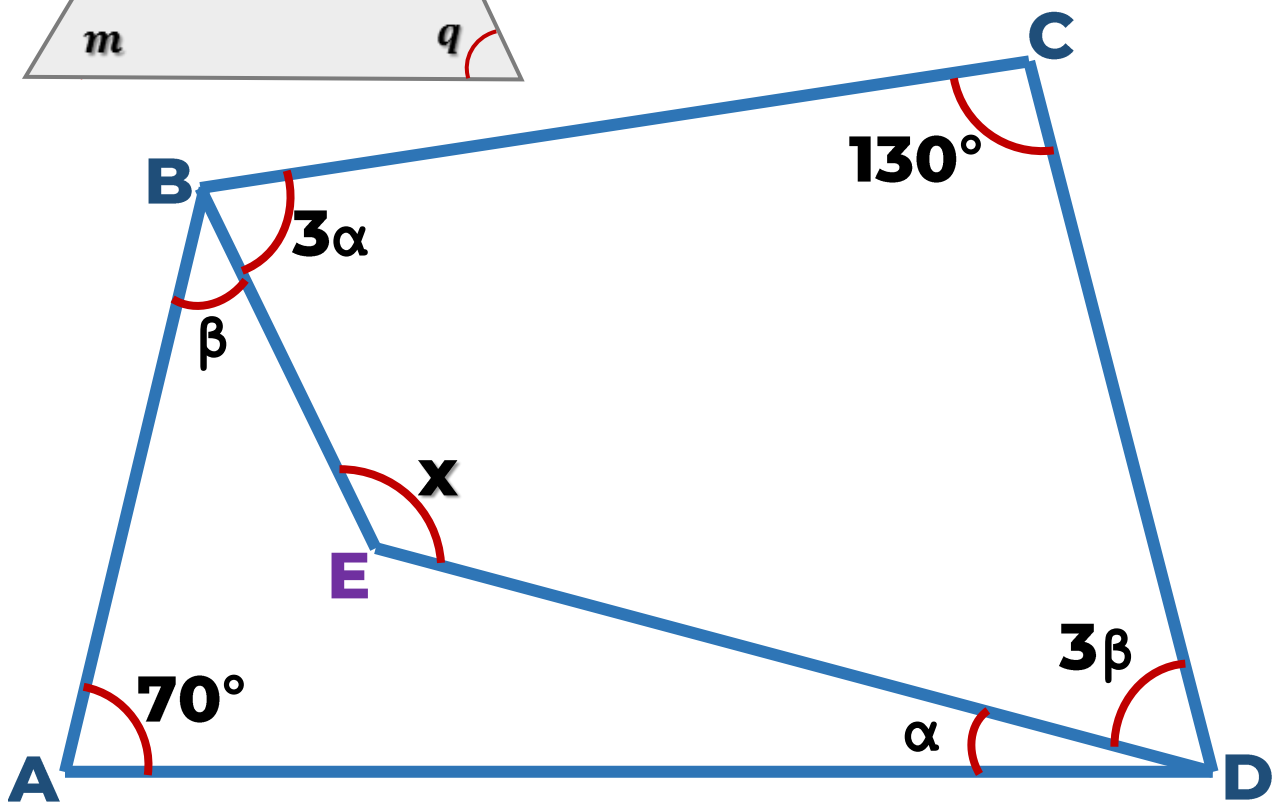
- △ BDE: Notable de 37°y 53°

x = 53°

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



$$m + n + p + q = 360°$$



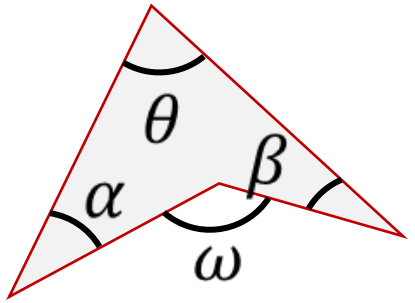
- ABCD :

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

$$4\alpha + 4\beta + 200° = 360°$$

$$4\alpha + 4\beta = 160°$$

$$\alpha + \beta = 40°$$

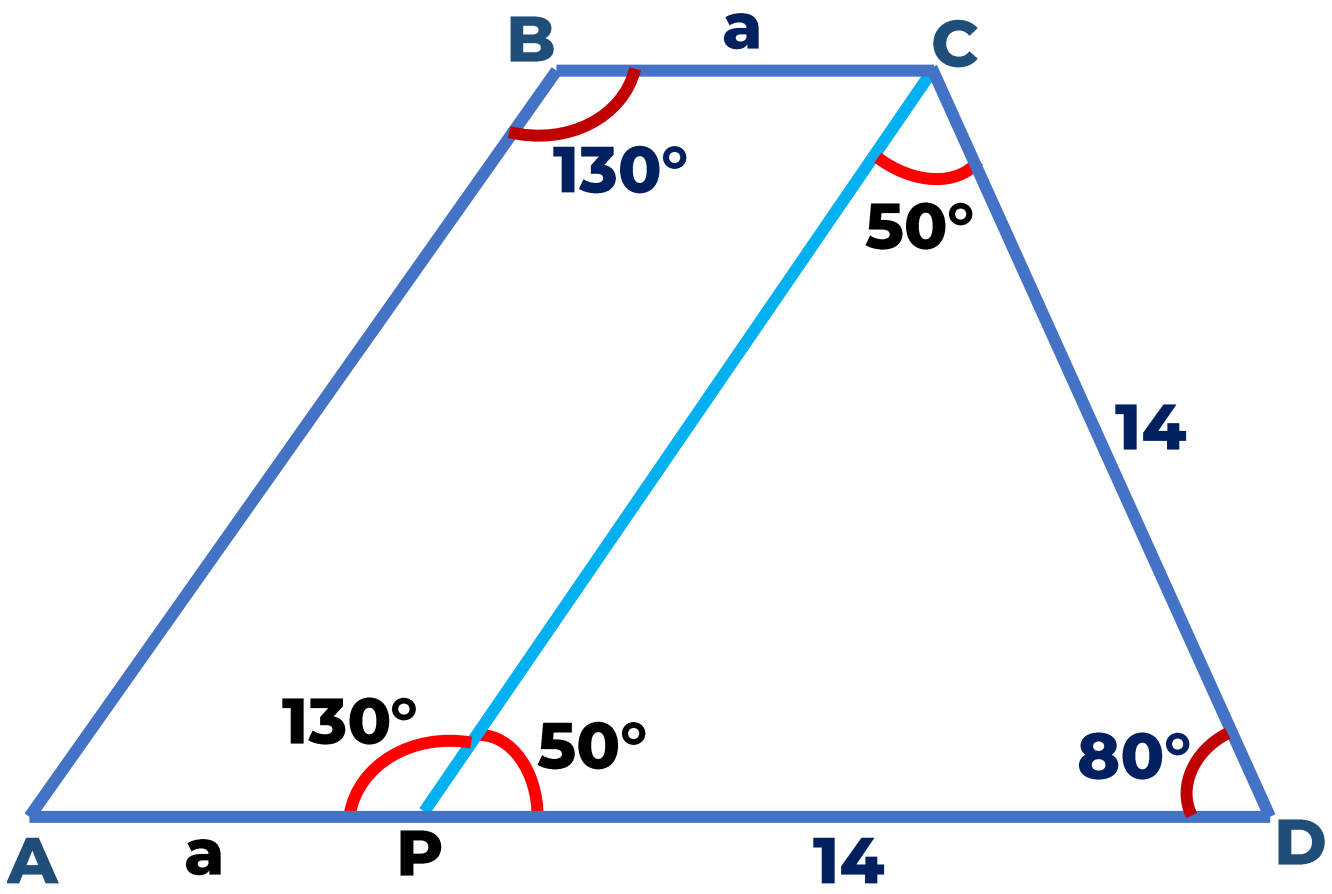


$$\omega = \alpha + \beta + \theta$$

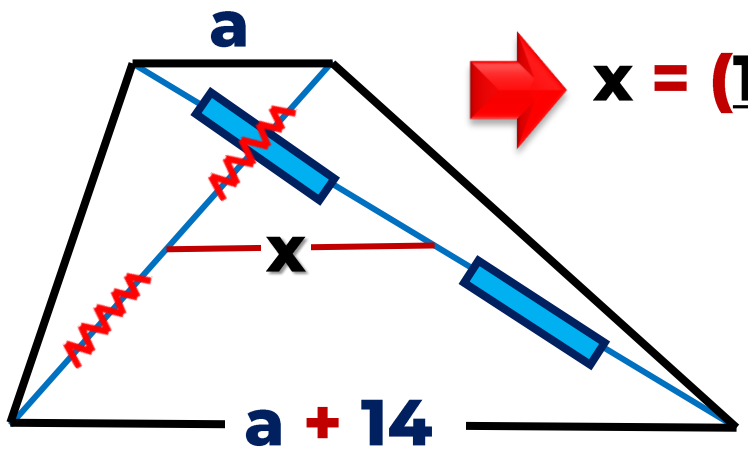
- ABED : $x = 70° + \underbrace{\beta + \alpha}_{40°}$

$$x = 110°$$

8. 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 $\overline{CP}$ // $\overline{BA}$
- ▱ ABCP (PARALELOGRAMO)
- △ CDP : ISÓSCELES

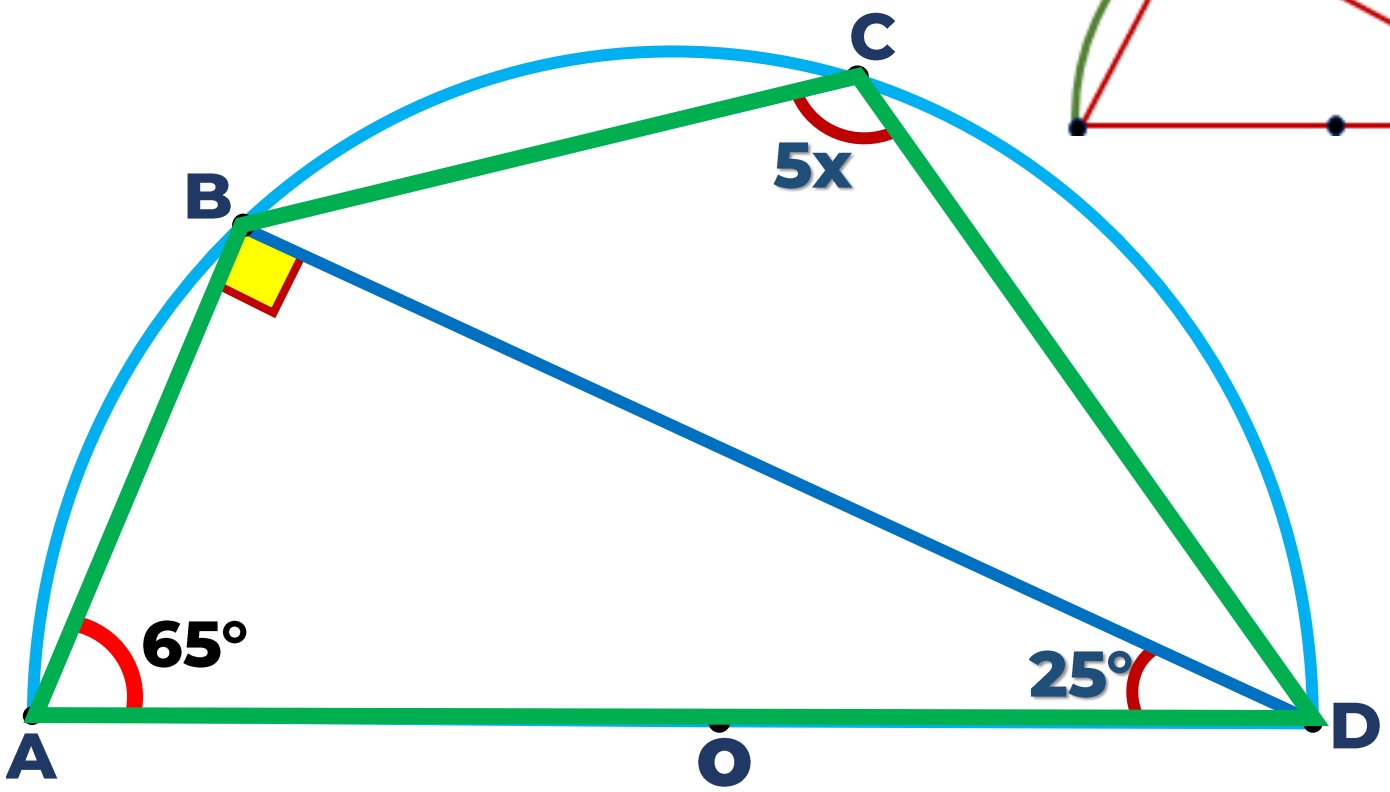


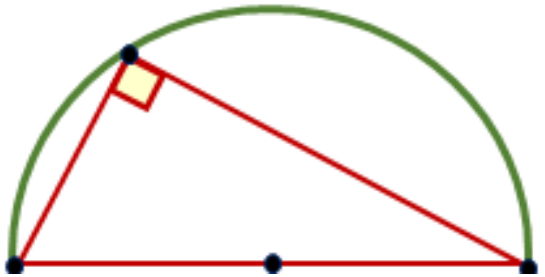
$$x = \frac{(14 + a) - a}{2}$$

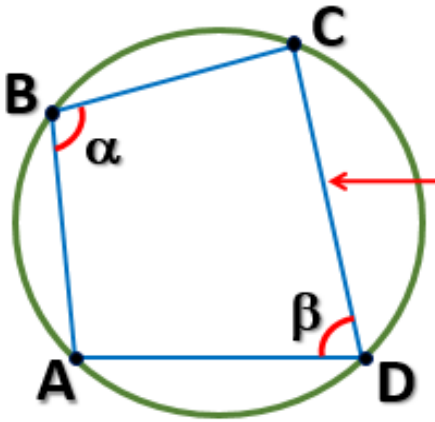
$$x = \frac{14}{2}$$

$$x = 7$$

9. En la figura O es centro, halle el valor de x.







ABCD: ▱ inscrito

$\alpha + \beta = 180°$

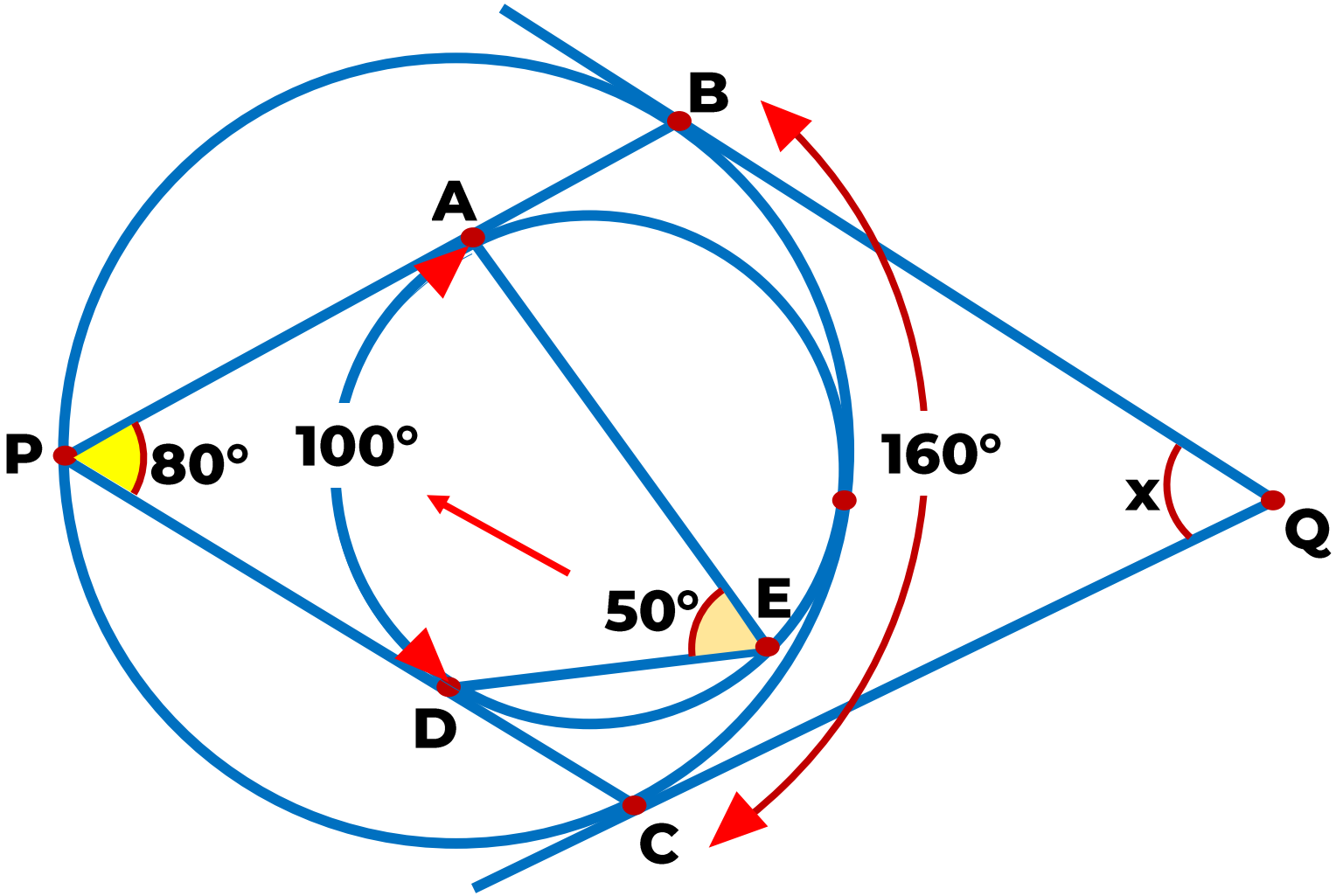
- ABCD : ▱ Inscrito

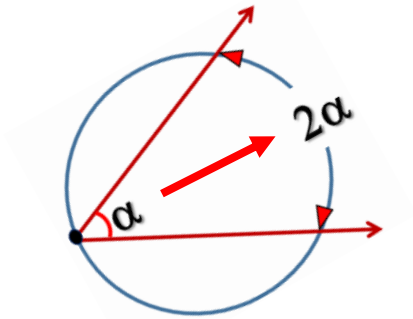
$5x + 65° = 180°$

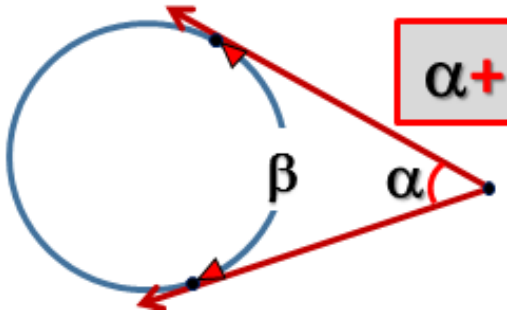
$5x = 115°$

$x = 23°$

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







$\Rightarrow$ $x + 160° = 180°$

$x = 20°$