



GEOMETRÍA

Retroalimentación
2 bimestre

5th
SECONDARY

Repaso

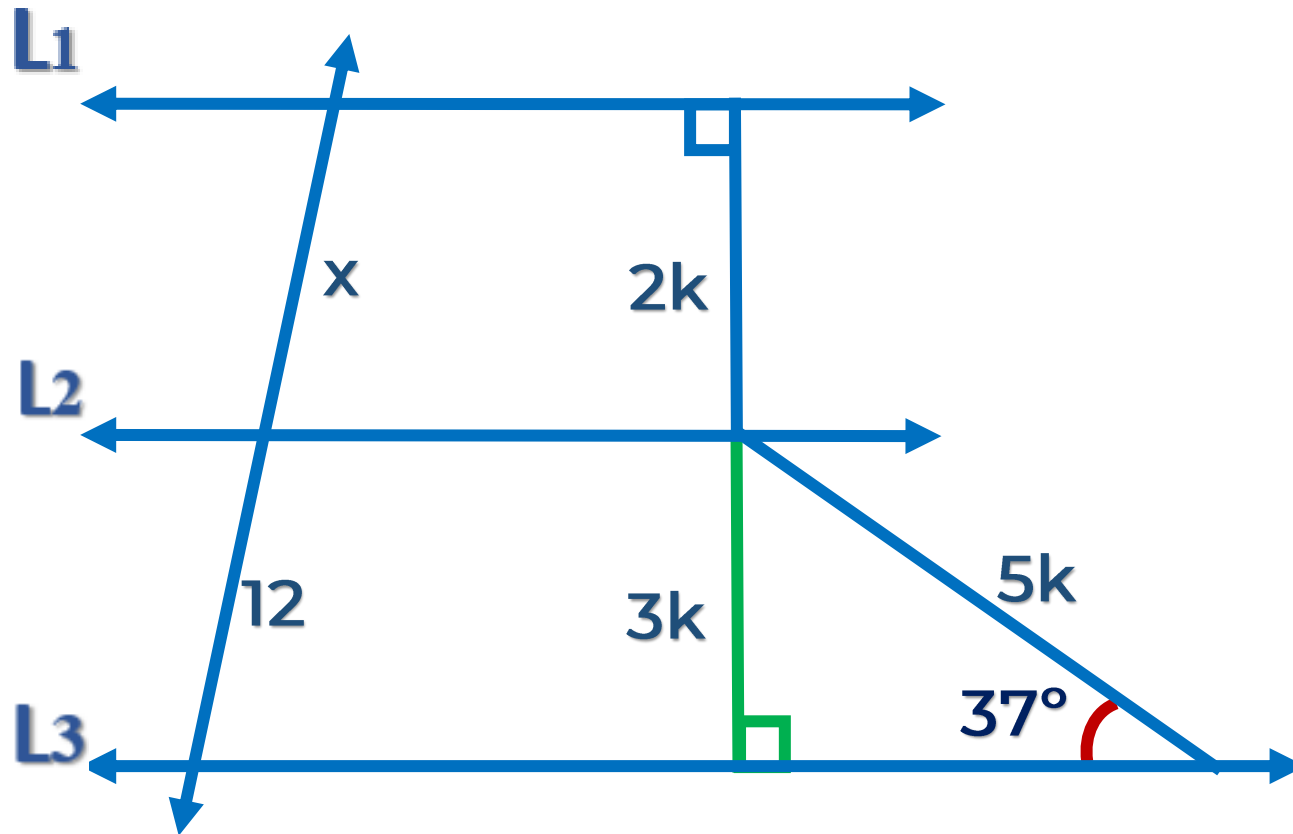


 **SACO OLIVEROS**

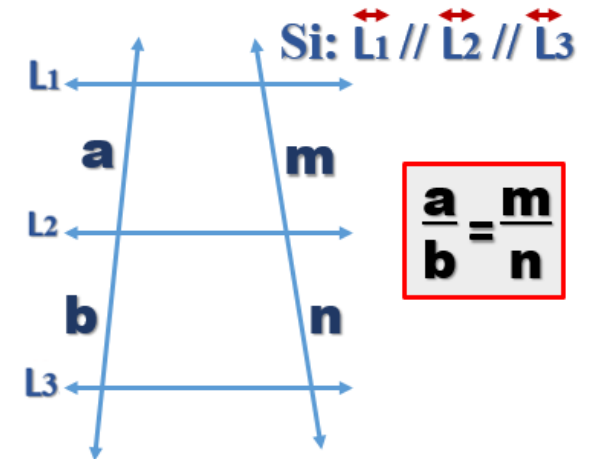


1. En la figura, calcule x , si $L_1 \parallel L_2 \parallel L_3$.

-  notables de 37° y 53° .



Teorema de Tales



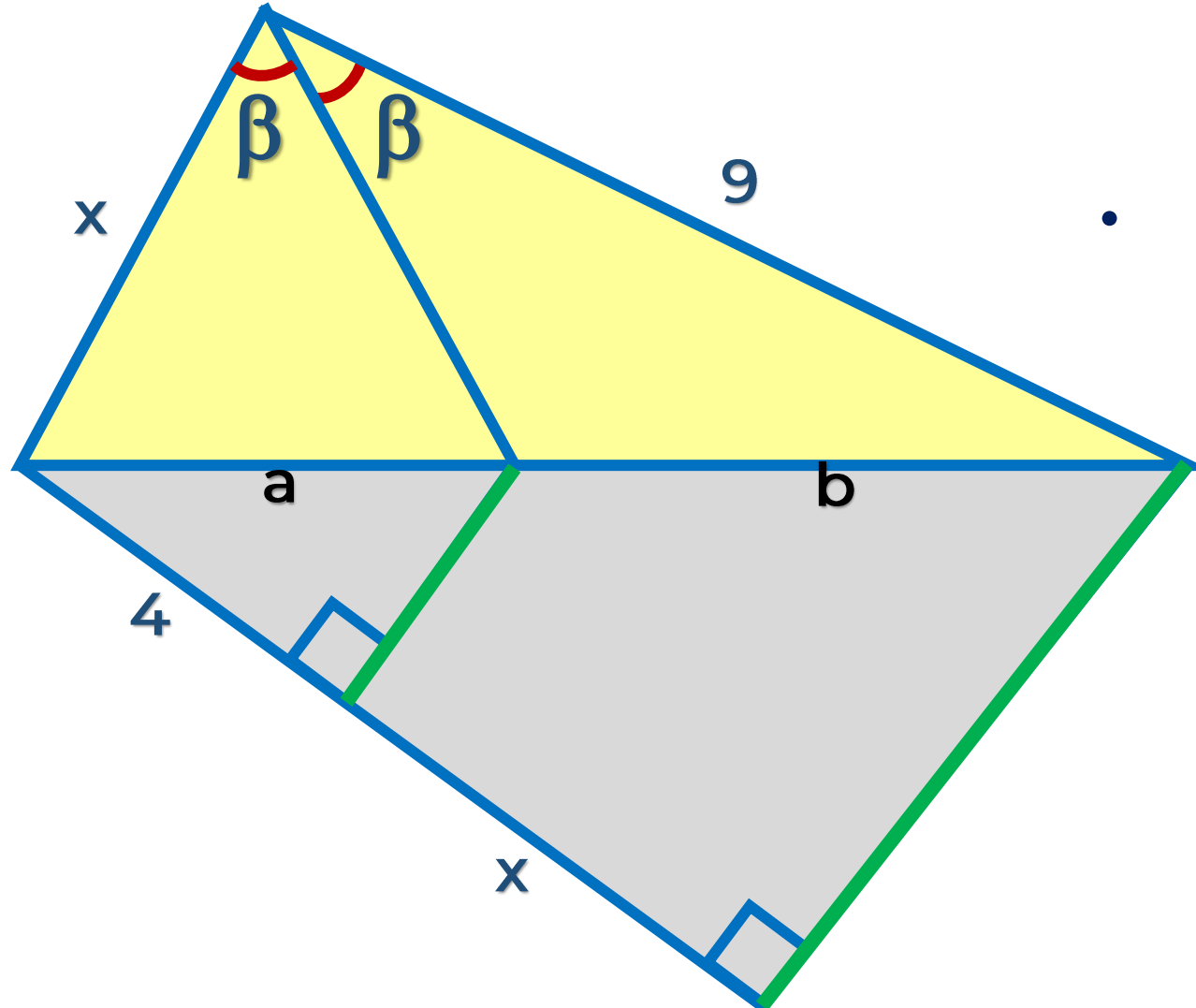
- Por teorema de Tales

$$\frac{x}{12} = \frac{2k}{3k}$$

$$3x = 2(12)$$

$$x = 8$$

2. En la figura, calcule x.



- Teorema de la bisectriz interior

$$\rightarrow \frac{x}{9} = \frac{a}{b} \dots\dots (1)$$

- Corolario de Tales

$$\rightarrow \frac{4}{x} = \frac{a}{b} \dots\dots (2)$$

- Igualando 1 y 2

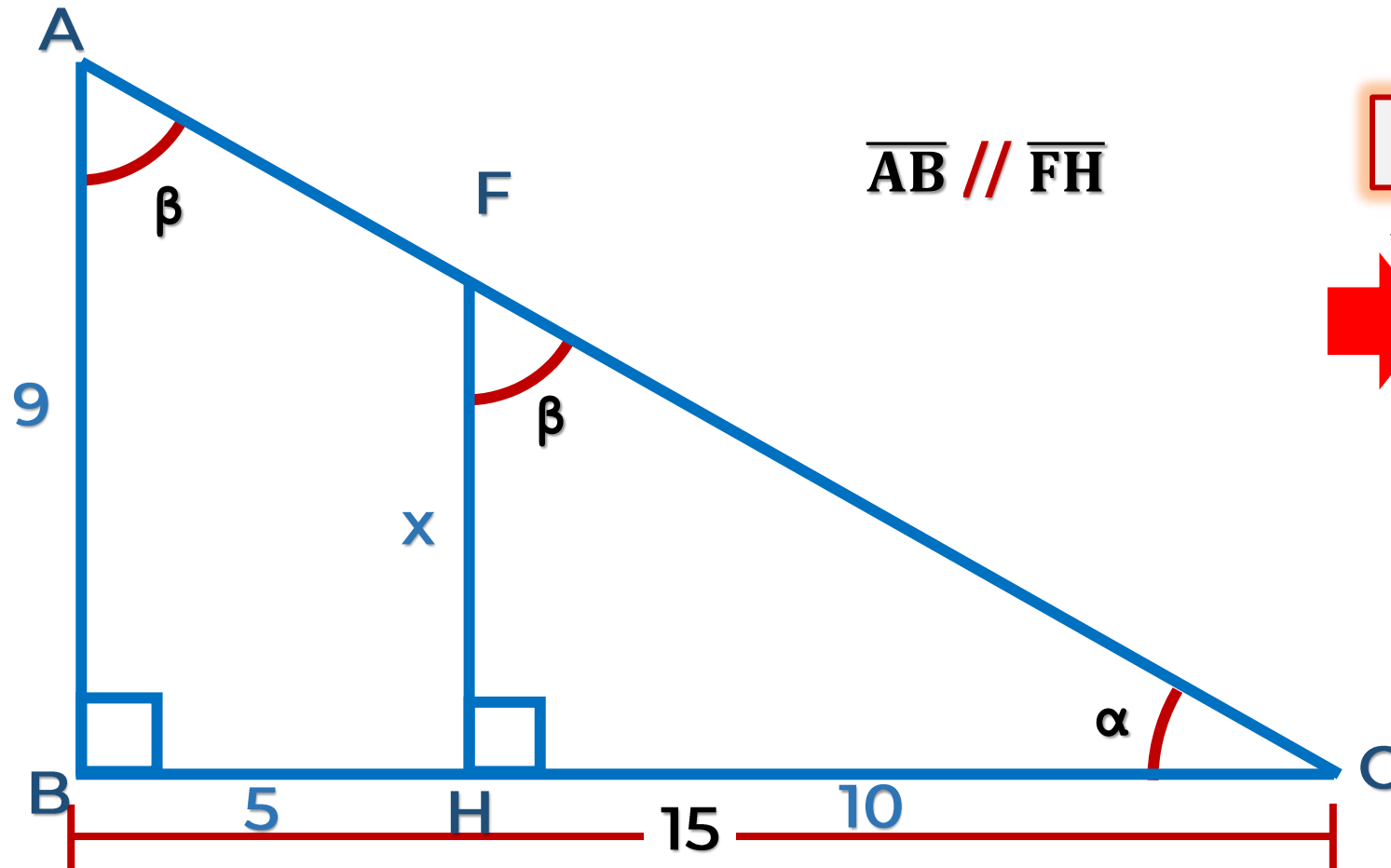
$$\frac{x}{9} = \frac{4}{x}$$

$$x^2 = 36$$

$$x = 6$$



3. En la figura, calcule x .



$$\overline{AB} \parallel \overline{FH}$$

$$\triangle FHC \sim \triangle ABC$$

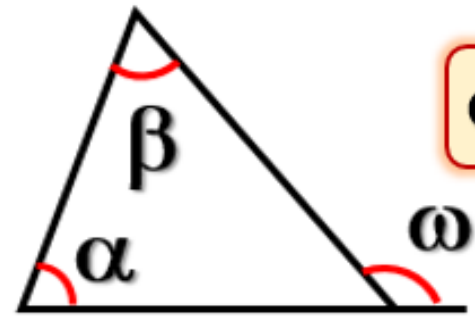
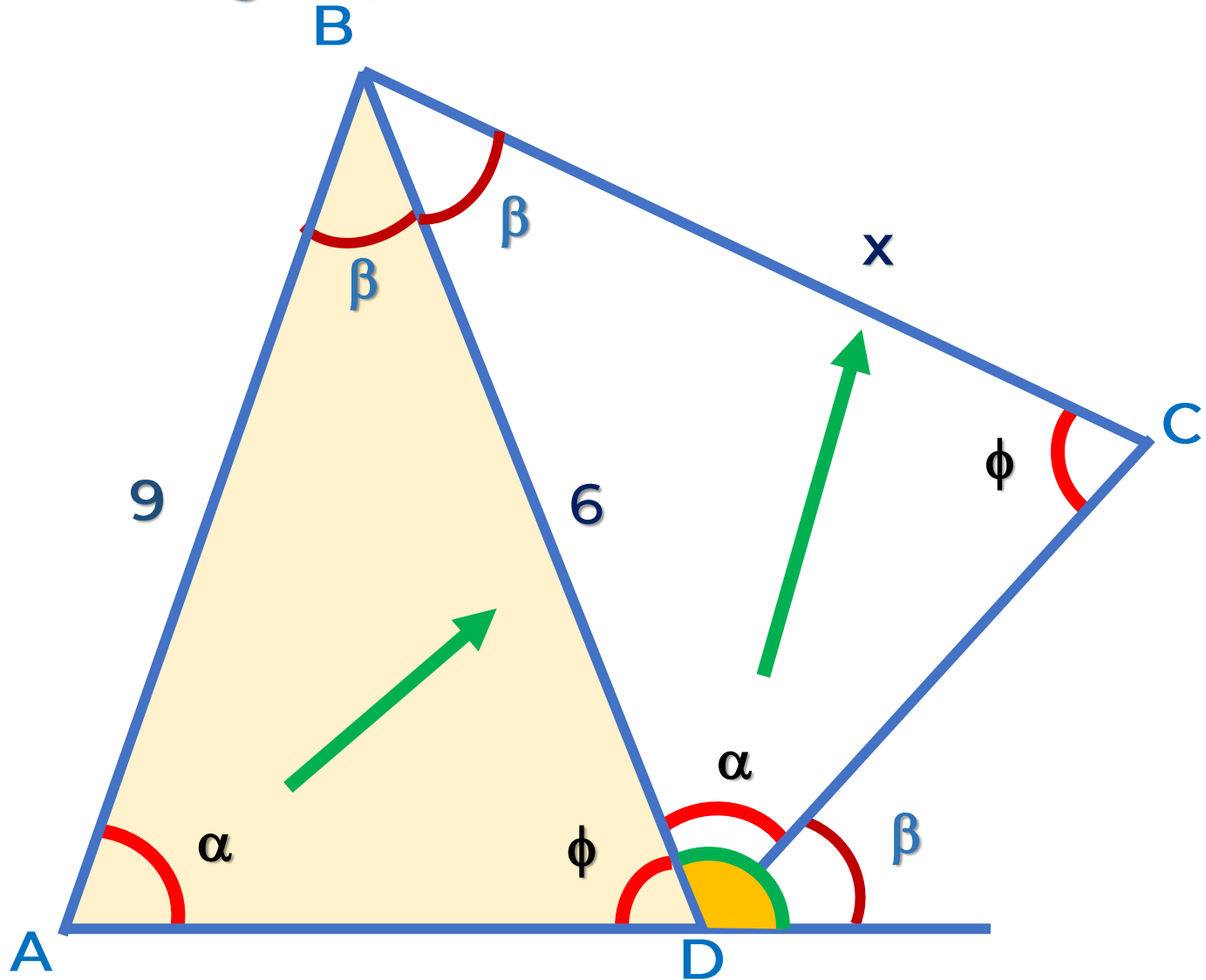
$$\frac{x}{9} = \frac{10}{15}$$

$$3x = 18$$

$$x = 6$$



4. En la figura, calcule x.



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

$$\triangle ABD \sim \triangle DCB$$

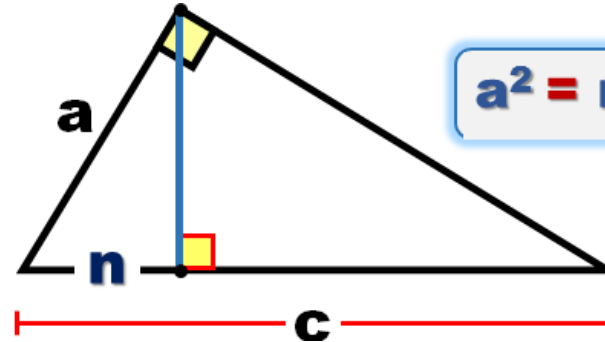
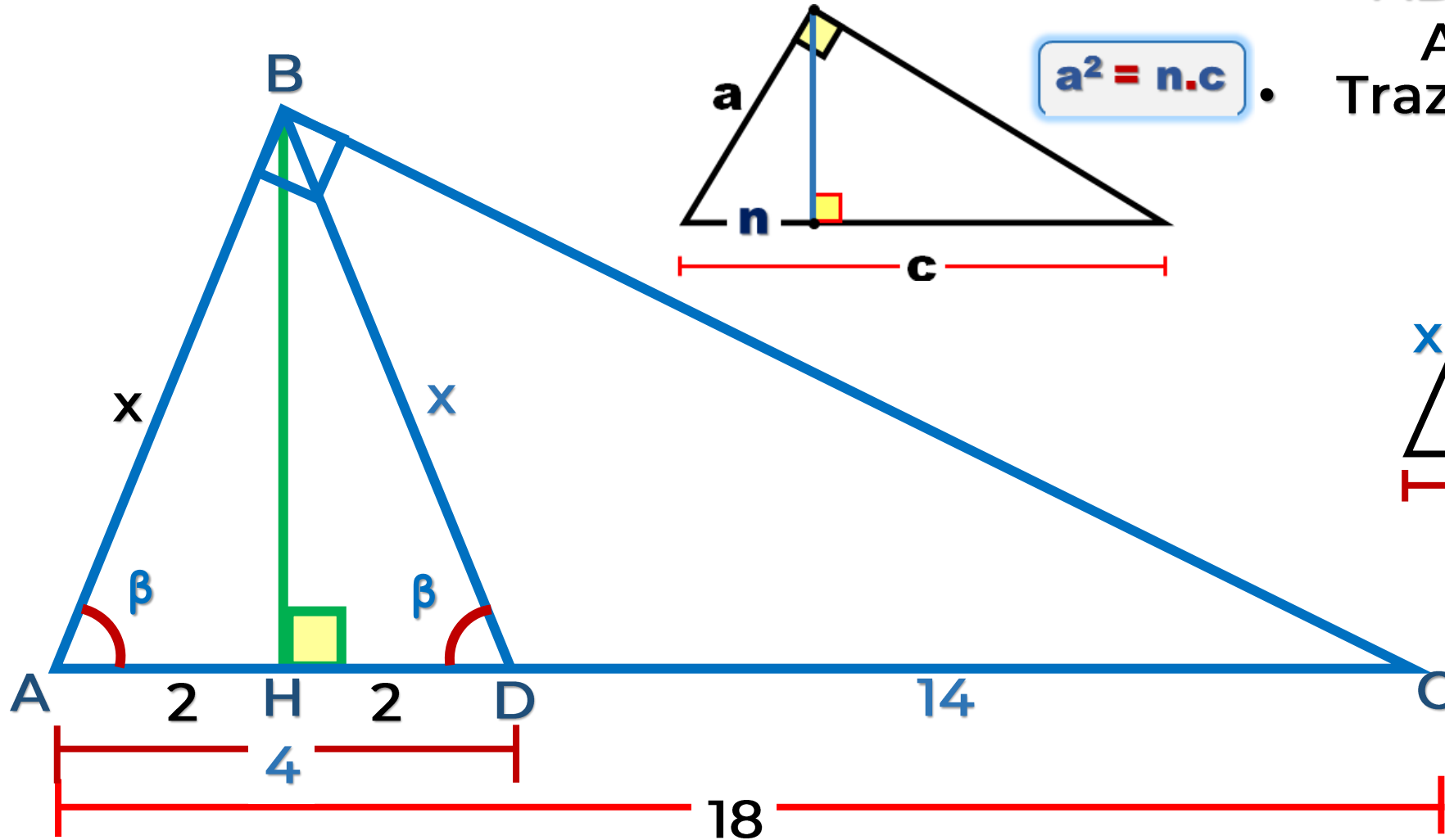
$$\Rightarrow \frac{x}{6} = \frac{6}{9}$$

$$3x = 12$$

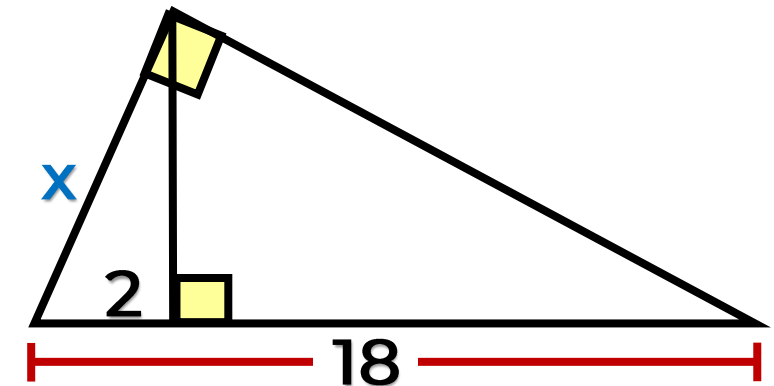
$$x = 4$$



5. En la figura, calcular x .



- $\triangle ABD$: ISÓSCELES
 $AB = BD = x$
- Trazamos la altura \overline{BH}
 $AH = HD = 2$

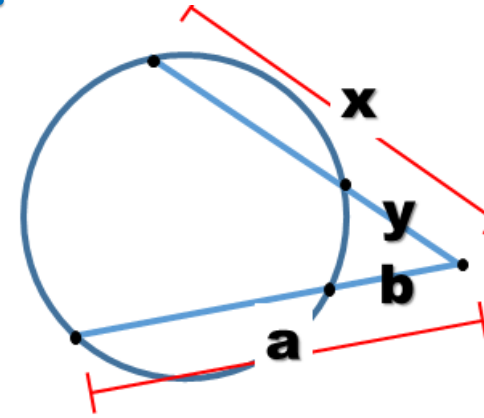
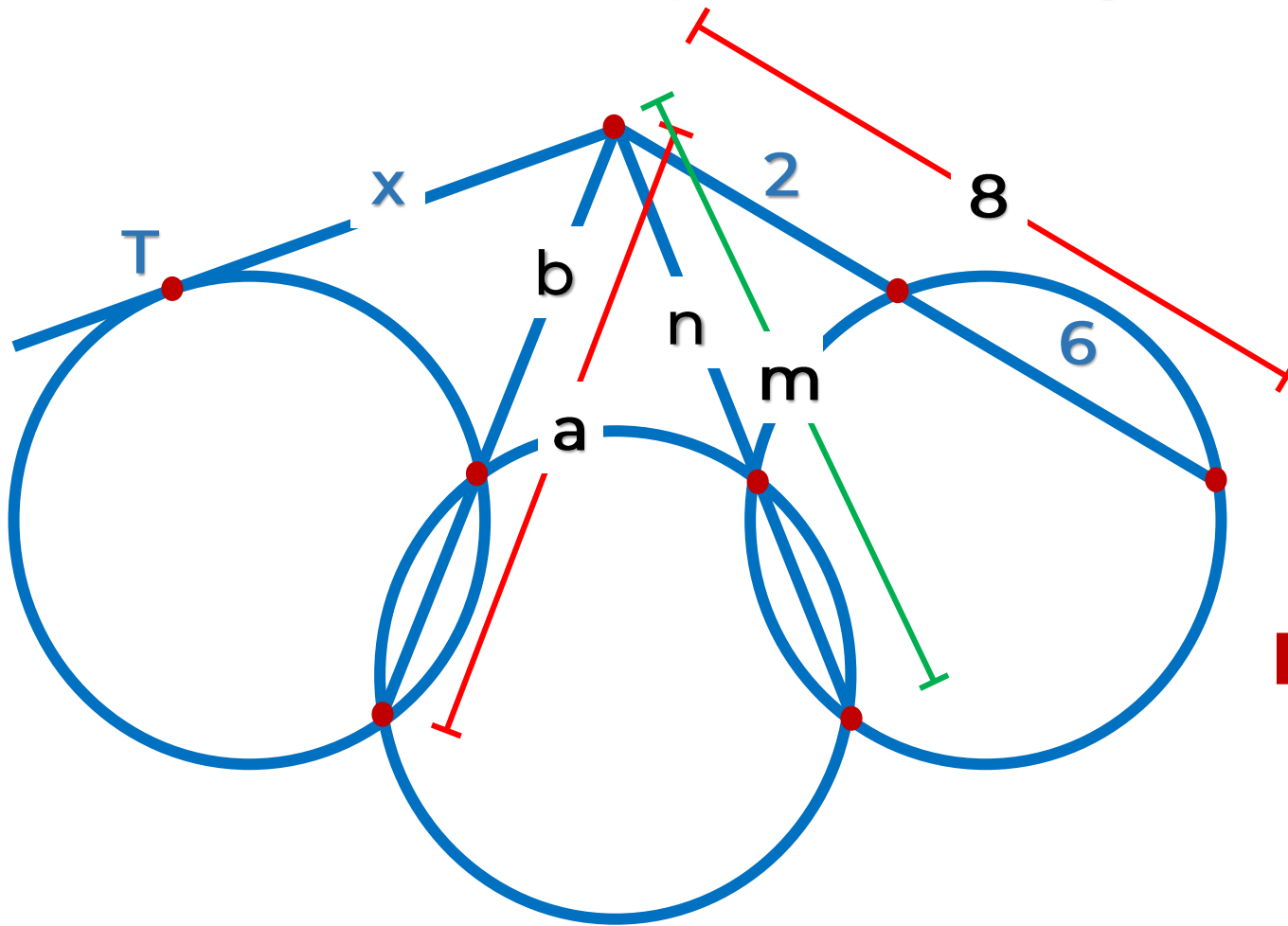


$$\Rightarrow x^2 = 2(18)$$

$$x^2 = 36$$

$$x = 6$$

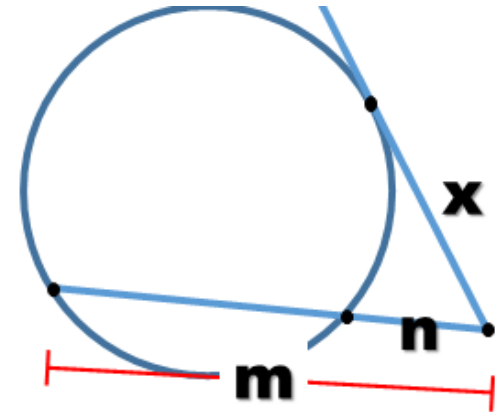
6. Calcule x si T es punto de tangencia.



T. de las Secantes

$$x \cdot y = a \cdot b$$

- $m \cdot n = 8 \cdot 2$
 $m \cdot n = 16$
- $a \cdot b = m \cdot n$
 $a \cdot b = 16$

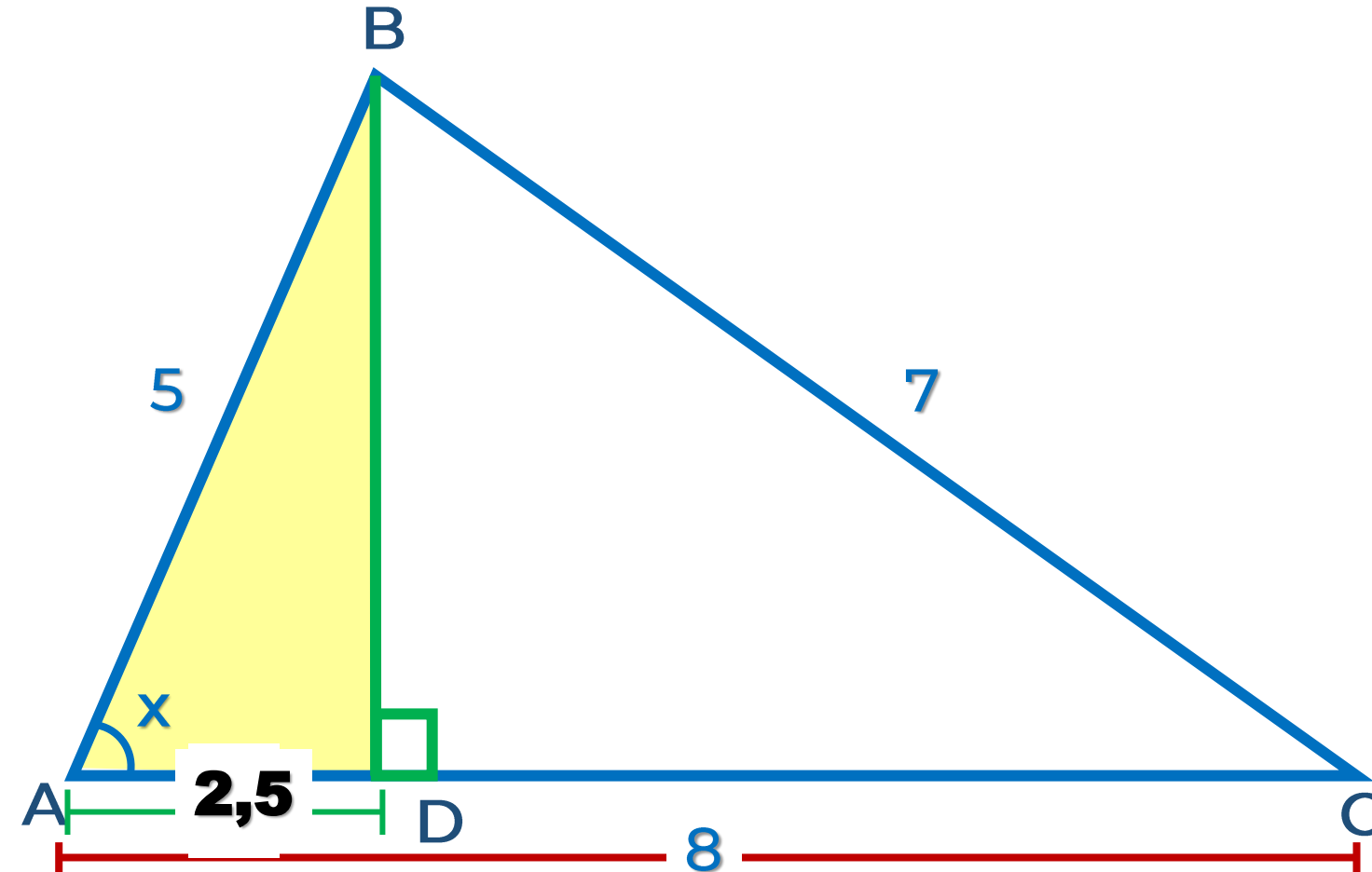


T. de la Tangente

$$x^2 = m \cdot n$$

- $x^2 = a \cdot b$
 $x^2 = 16$
 $x = 4$

7. En la figura, calcule x.



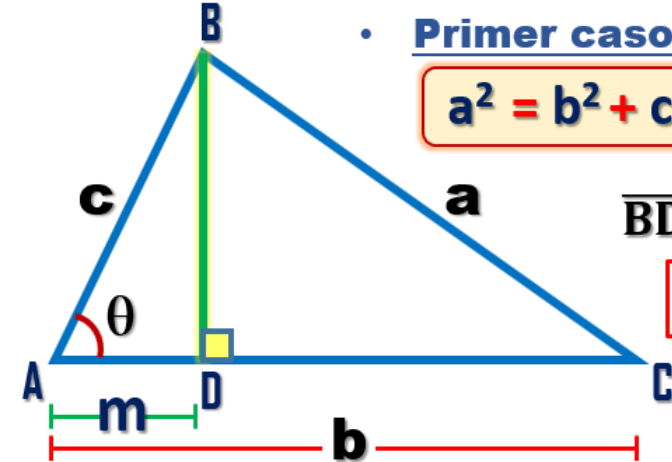
- Trazamos la altura \overline{BD}
- TEOREMA DE EUCLIDES

• Primer caso

$$a^2 = b^2 + c^2 - 2bm$$

\overline{BD} : Altura

$$\theta < 90^\circ$$



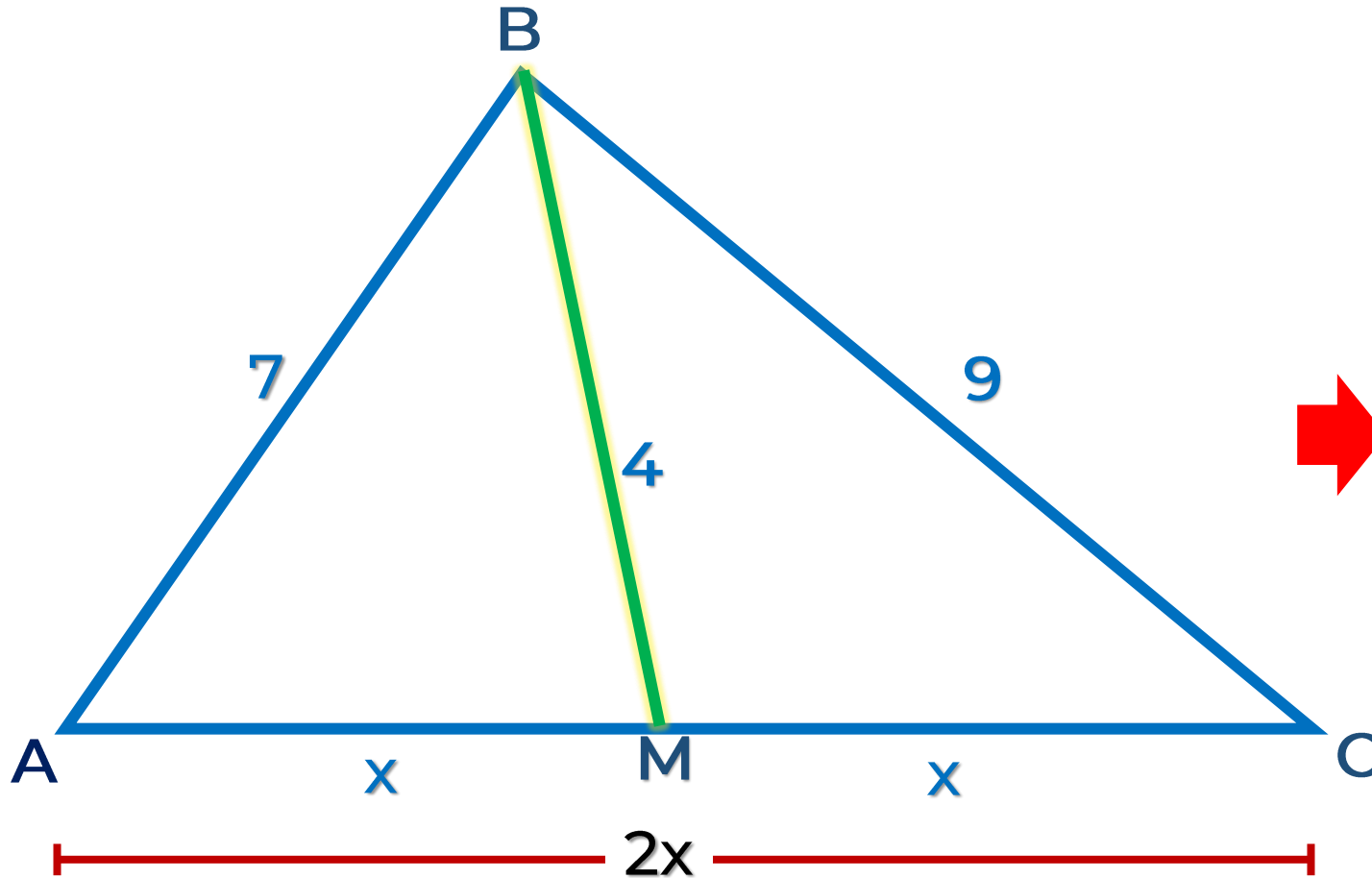
$$\begin{aligned} 7^2 &= 8^2 + 5^2 - 2(8)(m) \\ 49 &= 64 + 25 - 16m \\ 16m &= 40 \\ m &= 2,5 \end{aligned}$$

-  $\triangle ABD$: Notable de 30° y 60°

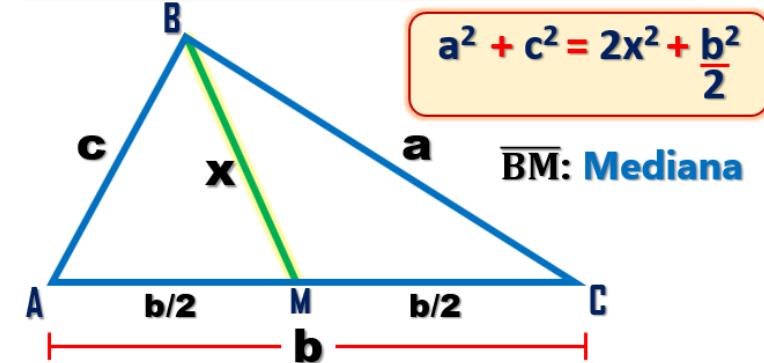
$$x = 60^\circ$$



8. En un triángulo ABC se traza la mediana \overline{BM} , $AB = 7$, $BC = 9$ y $BM = 4$. Calcule AM.



TEOREMA DE LA MEDIANA



$$9^2 + 7^2 = 2(4)^2 + \frac{(2x)^2}{2}$$

$$81 + 49 = 32 + 2x^2$$

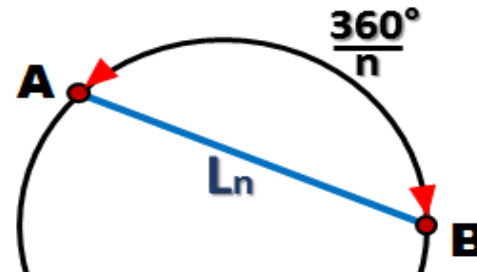
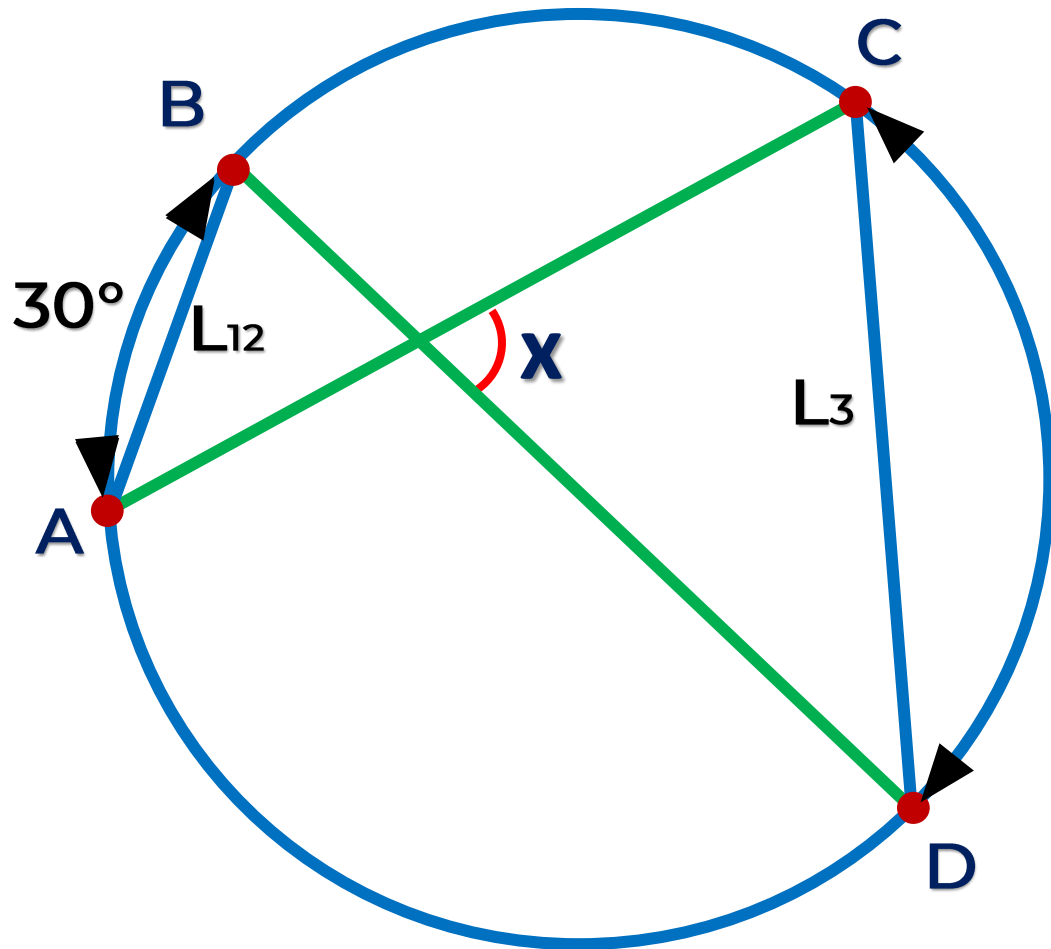
$$98 = 2x^2$$

$$49 = x^2$$

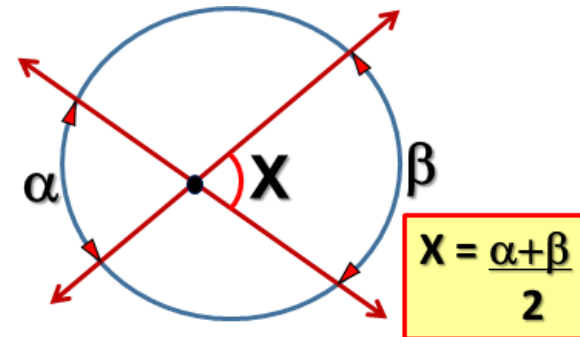
$$7 = x$$



9. Si $AB = L_{12}$ y $CD = L_3$, calcule la medida del ángulo que forman \overline{BD} y \overline{AC} .



120°



$$n = 12$$

$$m\widehat{AB} = \frac{360^\circ}{12}$$

$$m\widehat{AB} = 30^\circ$$

$$n = 3$$

$$m\widehat{CD} = \frac{360^\circ}{3}$$

$$m\widehat{CD} = 120^\circ$$

Ángulo interior

$$x = \frac{30^\circ + 120^\circ}{2}$$

$$x = 75^\circ$$

Diagram for problem 10. A large triangle ABE is shown with base AE and vertex B . A line segment CH is drawn from vertex C (on BE) perpendicular to AE at H . A line segment CD is drawn from C perpendicular to AB at D . The shaded triangle BCD has an area of 6. The length of CH is 6, and the length of BE is 10. The angle at E is 37° . The angle at C between CH and CD is 53° . The length of AB is 13. The angle at A is labeled β . A small diagram on the right shows a right triangle with angle β and hypotenuse CE .

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$$\frac{CH}{CP} = \frac{6}{10}$$

- **Nos piden.**

$$S_{BCD} = \frac{13.6}{2}$$

$$S_{\text{BCD}} = 39u^2$$