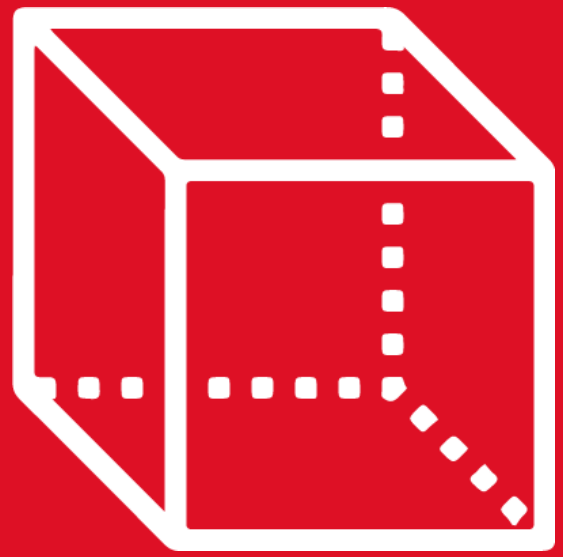
GEOMETRÍA

2 bimestre



5th

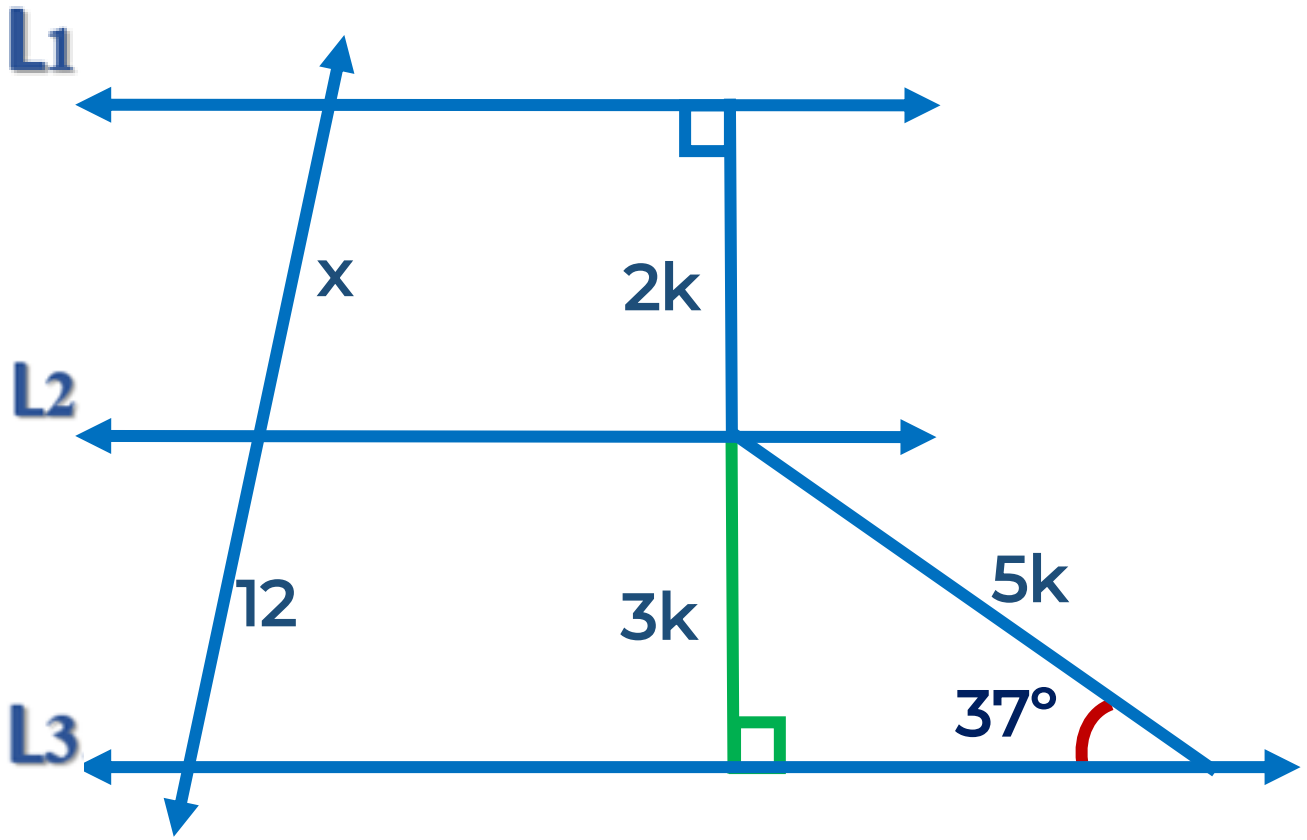
SECONDARY

Repaso

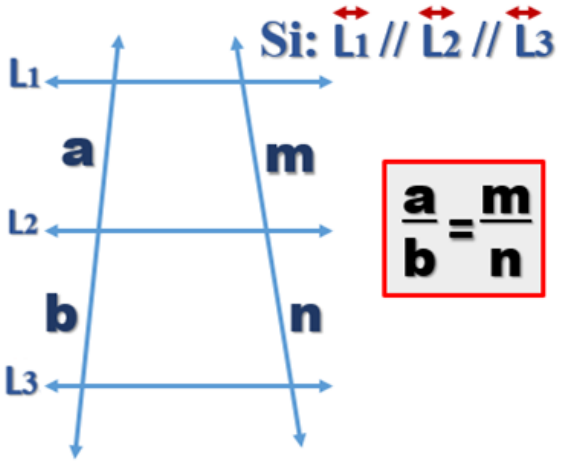
SACO OLIVEROS

1. En la figura, calcule x, si $\overleftrightarrow{L_1} // \overleftrightarrow{L_2} // \overleftrightarrow{L_3}$.

- notables de 37° y 53°.



Teorema de Tales



$$\frac{a}{b} = \frac{m}{n}$$

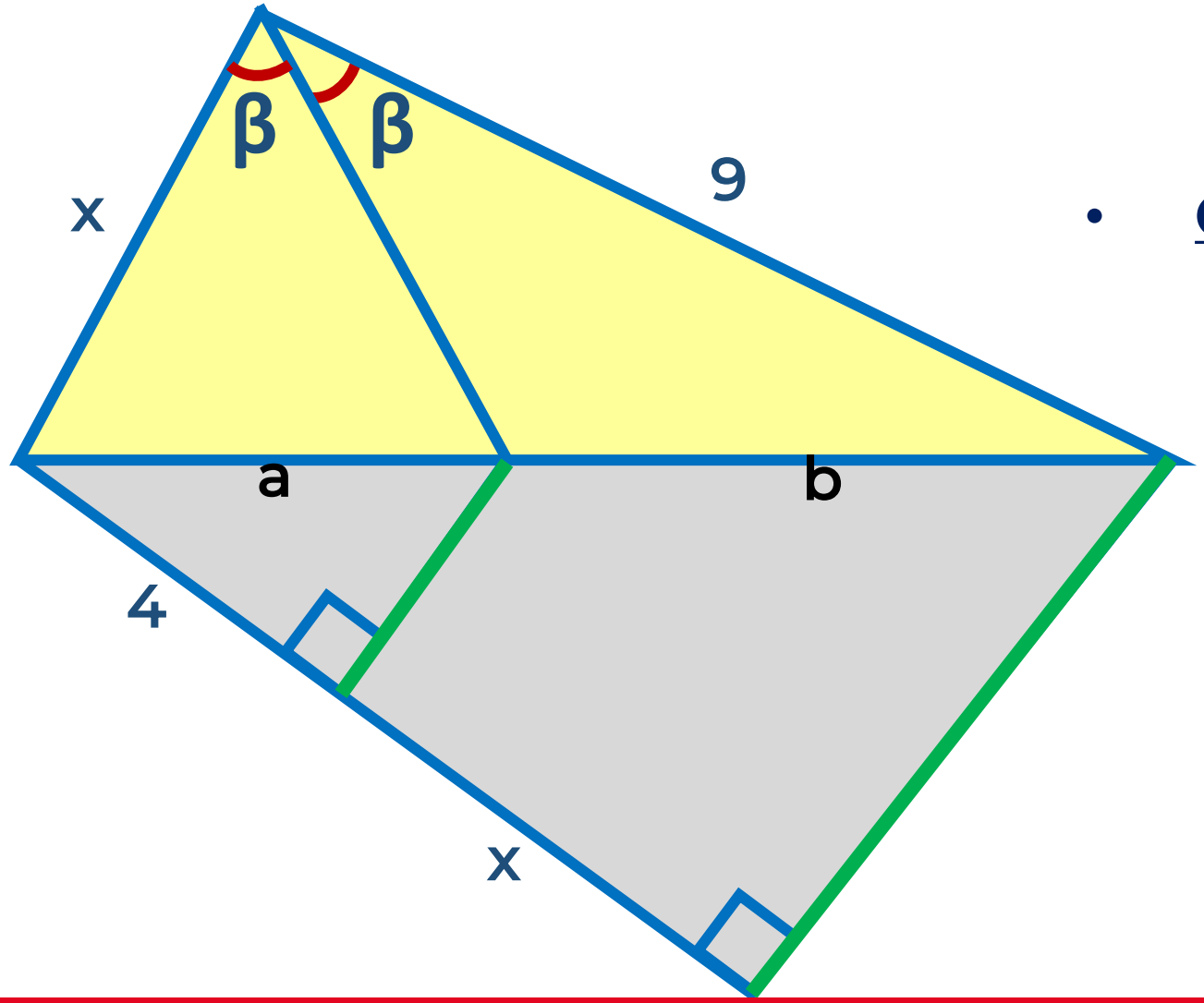
- Por teorema de Tales

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

$$3x = 2(12)$$

$$x = 8$$

2. En la figura, calcule x.



- **Teorema de la bisectriz interior**

$$\frac{x}{9} = \frac{a}{b} \quad \ldots\ldots (1)$$

- **Corolario de Tales**

$$\frac{4}{x} = \frac{a}{b} \quad \ldots\ldots (2)$$

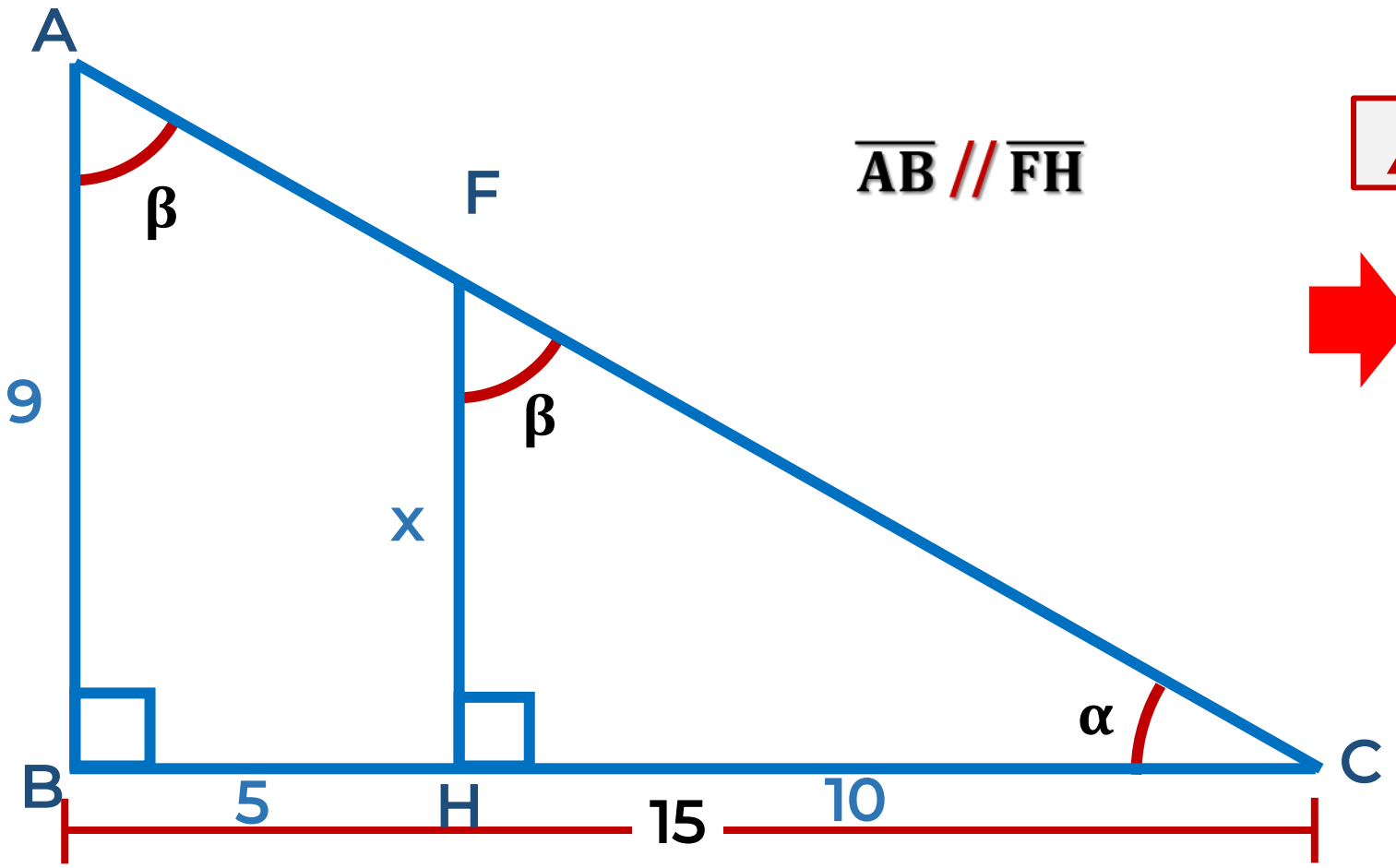
- **Igualando 1 y 2**

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

$$x^2 = 36$$

$$x = 6$$

3. En la figura, calcule x.



$\overline{AB} \,//\, \overline{FH}$

$\triangle FHC \sim \triangle ABC$

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

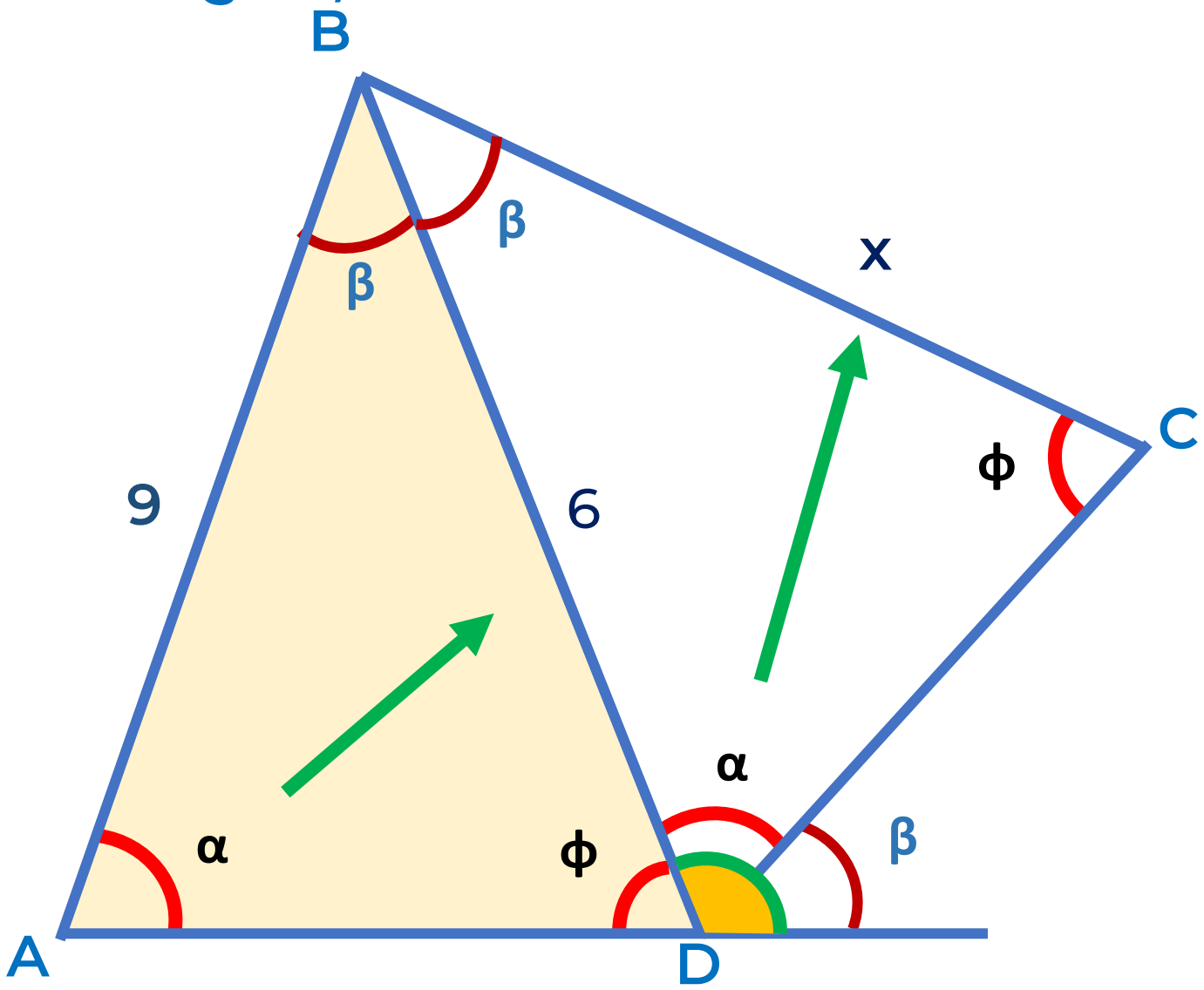
2

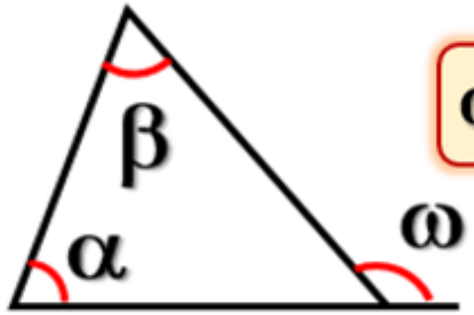
3

$3x = 18$

$x = 6$

4. En la figura, calcule x.





$\omega = \alpha + \beta$

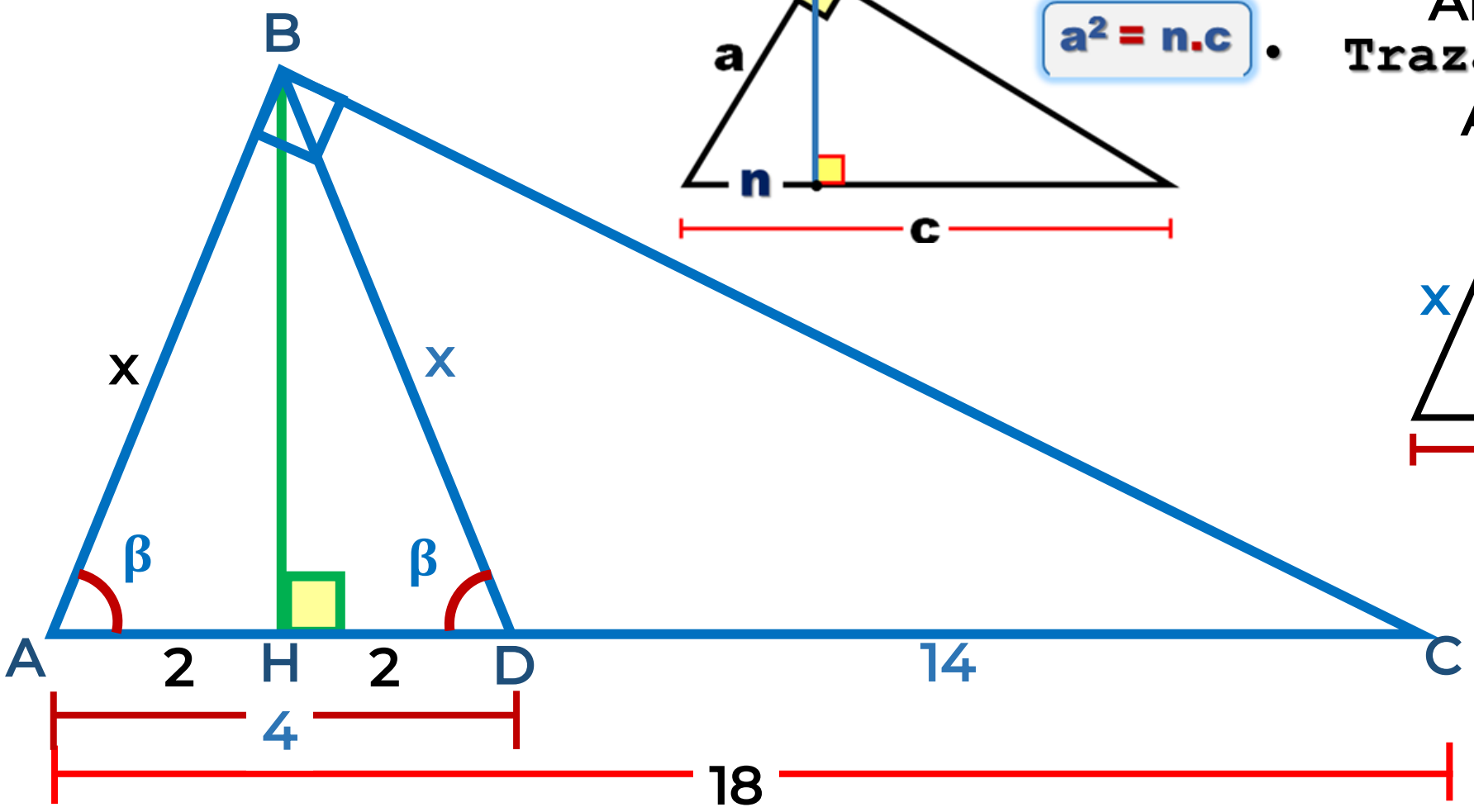
$\Delta ABD \sim \Delta DBC$

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

$$3x = 12$$

$$x = 4$$

5. En la figura, calcular x.



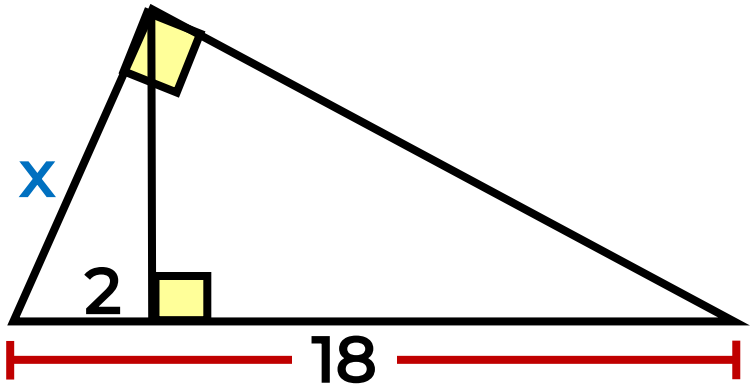
$a^2 = n.c$

- $\triangle ABD$: ISÓSCELES

  $AB = BD = x$

- Trazamos la altura $\overline{BH}$

  $AH = HD = 2$

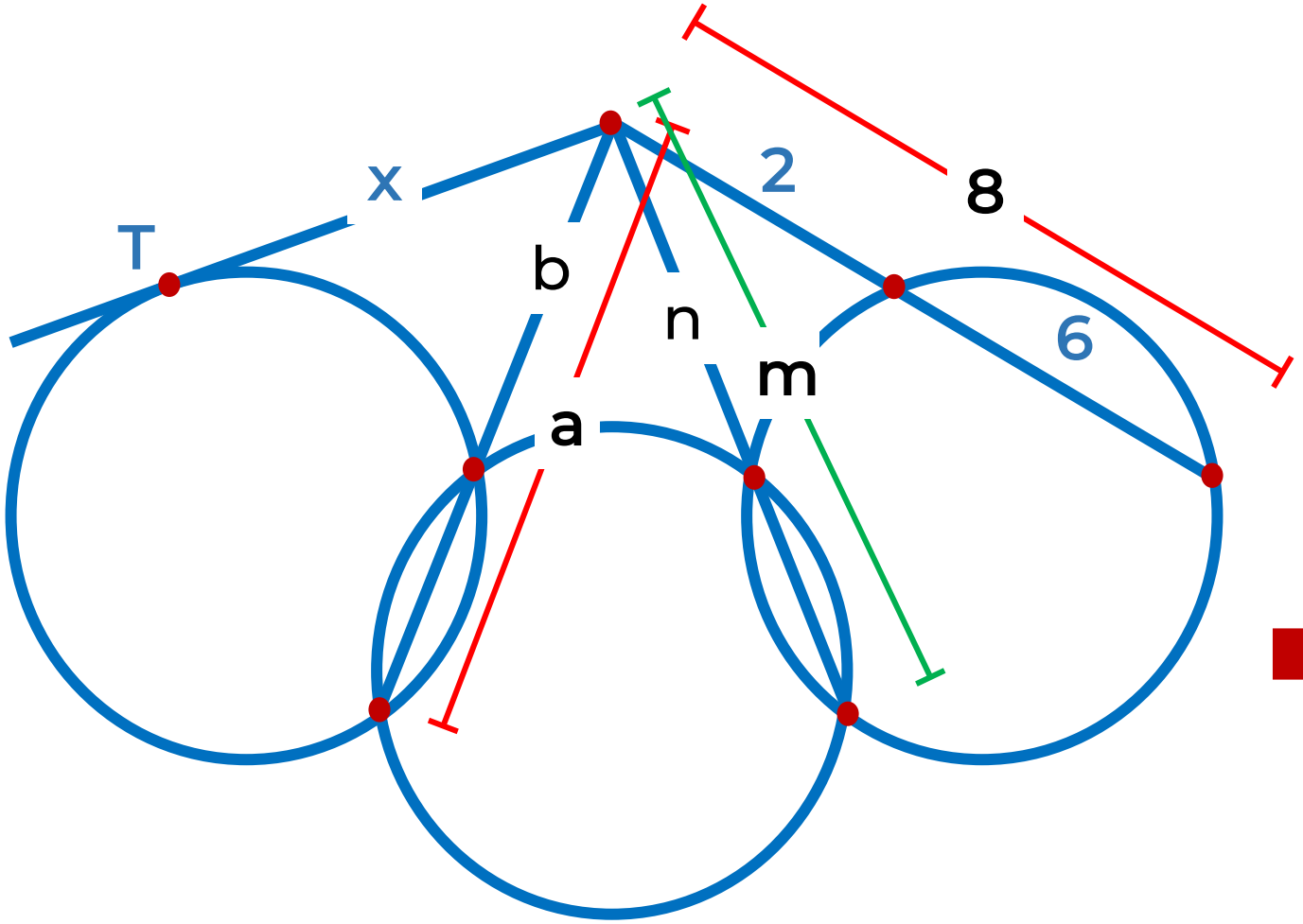


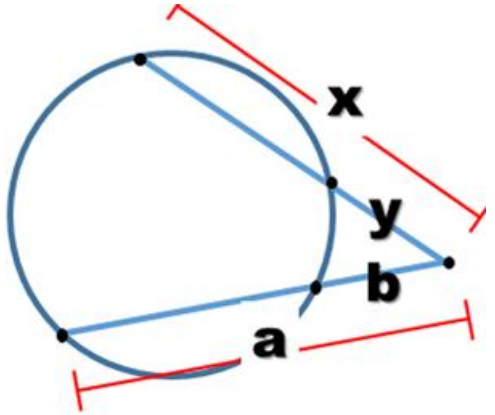
$x^2 = 2(18)$

$x^2 = 36$

$x = 6$

6. Calcule x si T es punto de tangencia.





T. de las Secantes

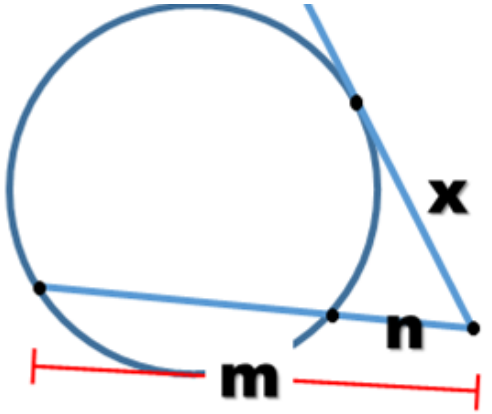
$x.y = a.b$

- $m.n = 8.2$

  $m.n = 16$

- $a.b = m.n$

  $a.b = 16$



T. de la Tangente

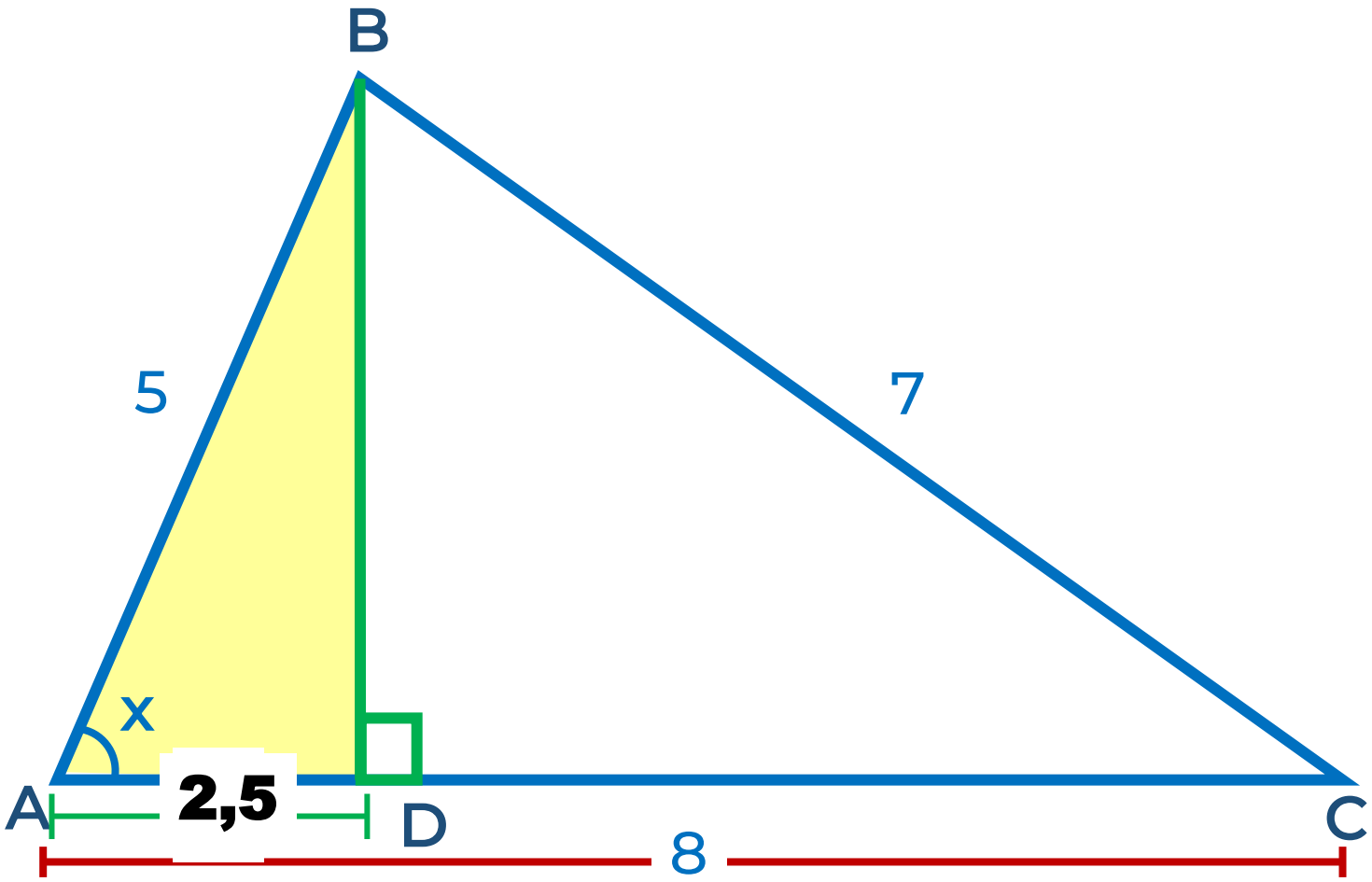
$x^2 = m.n$

- $x^2 = a.b$

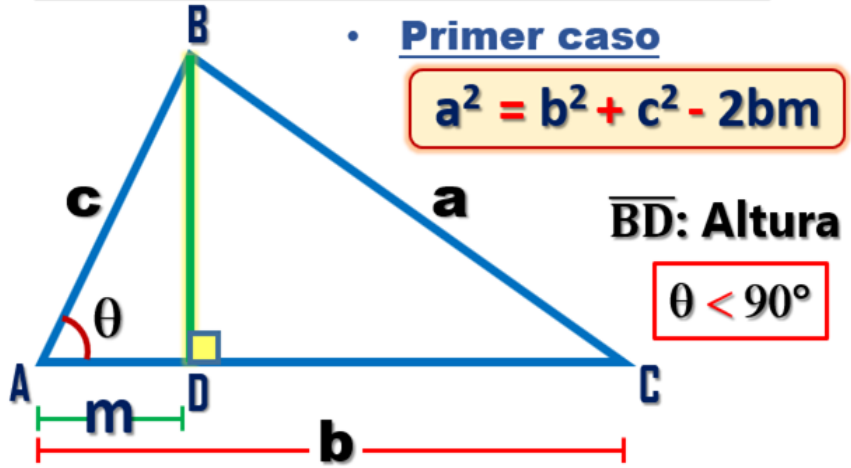
$x^2 = 16$

$x = 4$

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

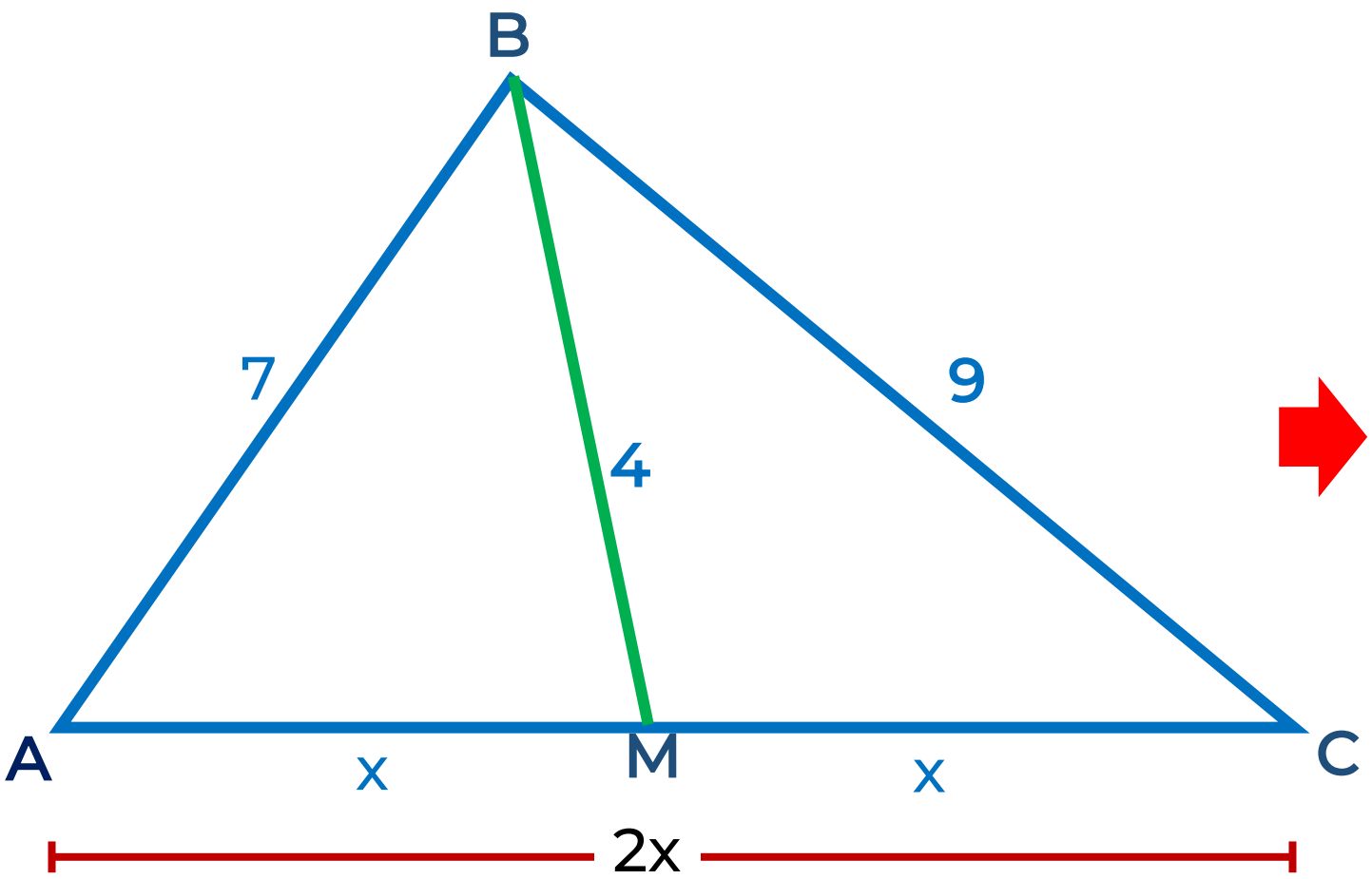
$\theta < 90°$

$$7^2 = 8^2 + 5^2 - 2(8)(m)$$
$$49 = 64 + 25 - 16m$$
$$16m = 40$$
$$m = 2,5$$

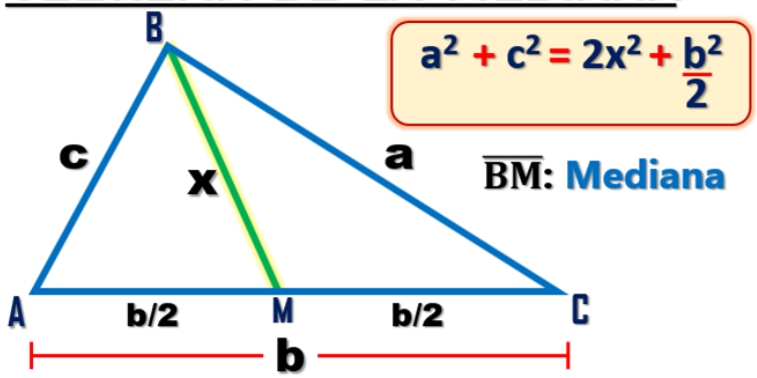
- $\triangle ABD$: Notable de 30° y 60°

$$x = 60°$$

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



TEOREMA DE LA MEDIANA



$a^2 + c^2 = 2x^2 + \frac{b^2}{2}$

$\overline{BM}$: Mediana

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

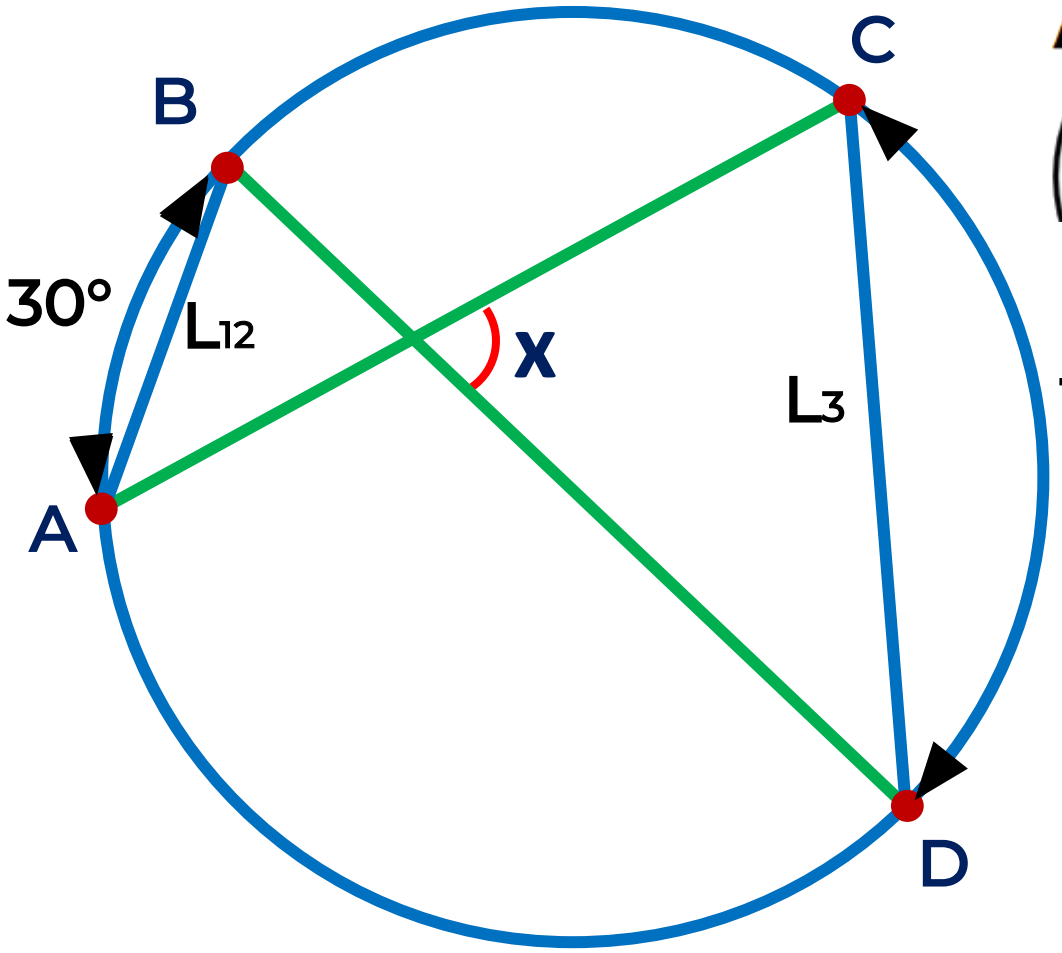
$$81 + 49 = 32 + 2x^2$$

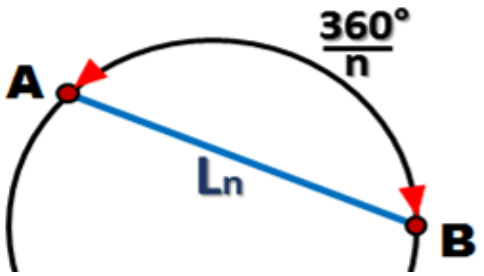
$$98 = 2x^2$$

$$49 = x^2$$

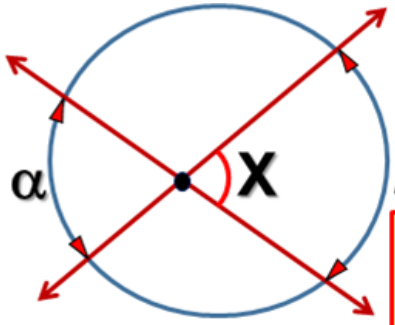
$$7 = x$$

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





n = 12	n = 3
$m\overset{\frown}{AB} = \frac{360°}{12}$	$m\overset{\frown}{CD} = \frac{360°}{3}$
$m\overset{\frown}{AB} = 30°$	$m\overset{\frown}{CD} = 120°$



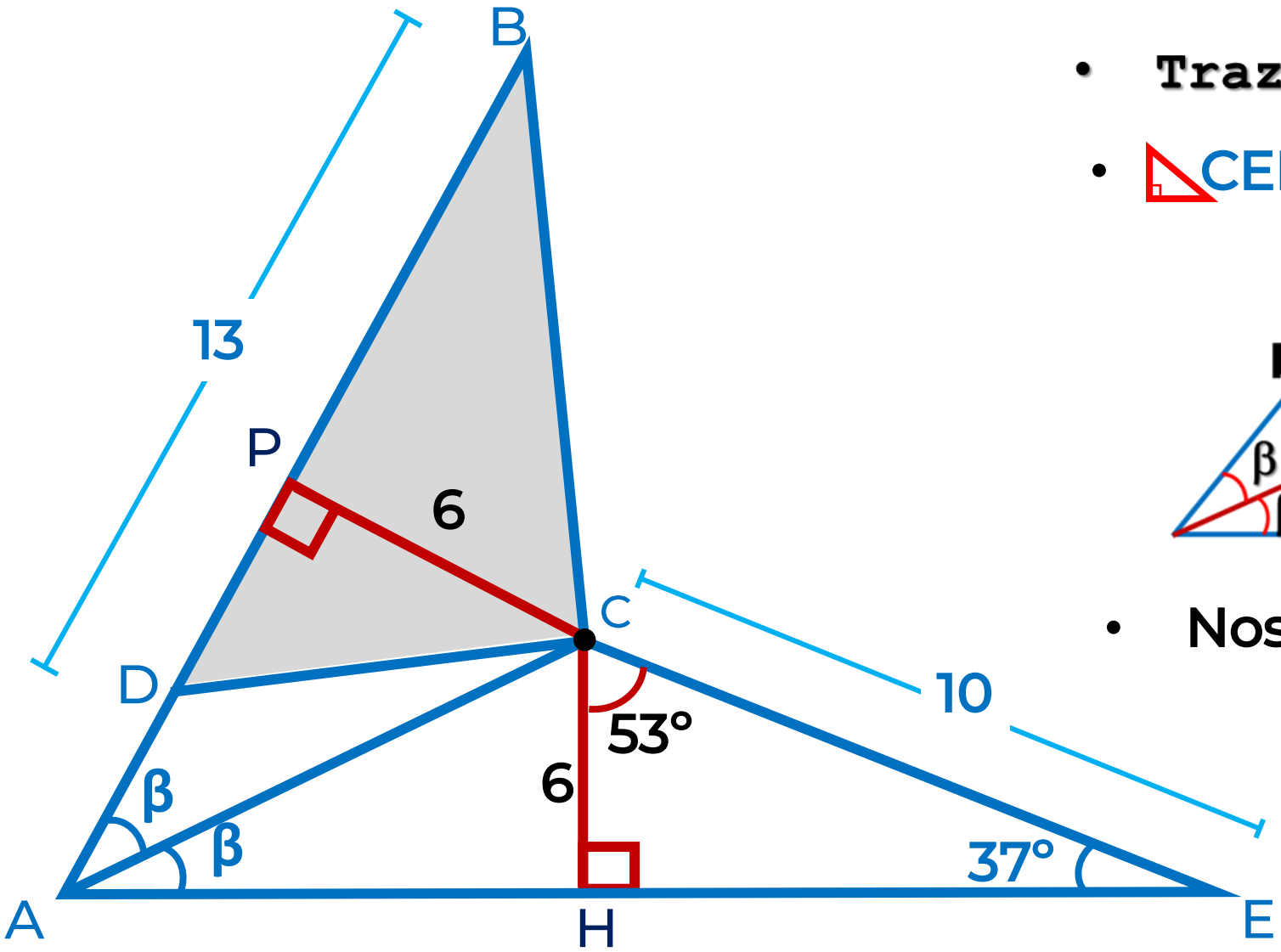
$X = \frac{\alpha+\beta}{2}$

Ángulo interior

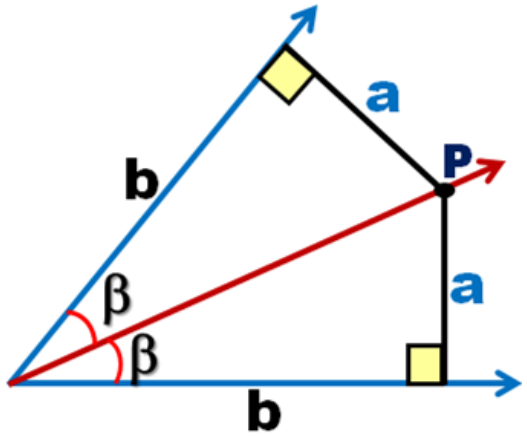
$$x = \frac{30° + 120°}{2}$$

$$x = 75°$$

10. En el gráfico, BD = 13 y CE = 10, calcule el área de la región sombreada.



- Trazamos la altura $\overline{CH}$.
- $\triangle CEH$: Notable de 37° y 53°



CH = CP = 6

- Nos piden.

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

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