GEOMETRÍA

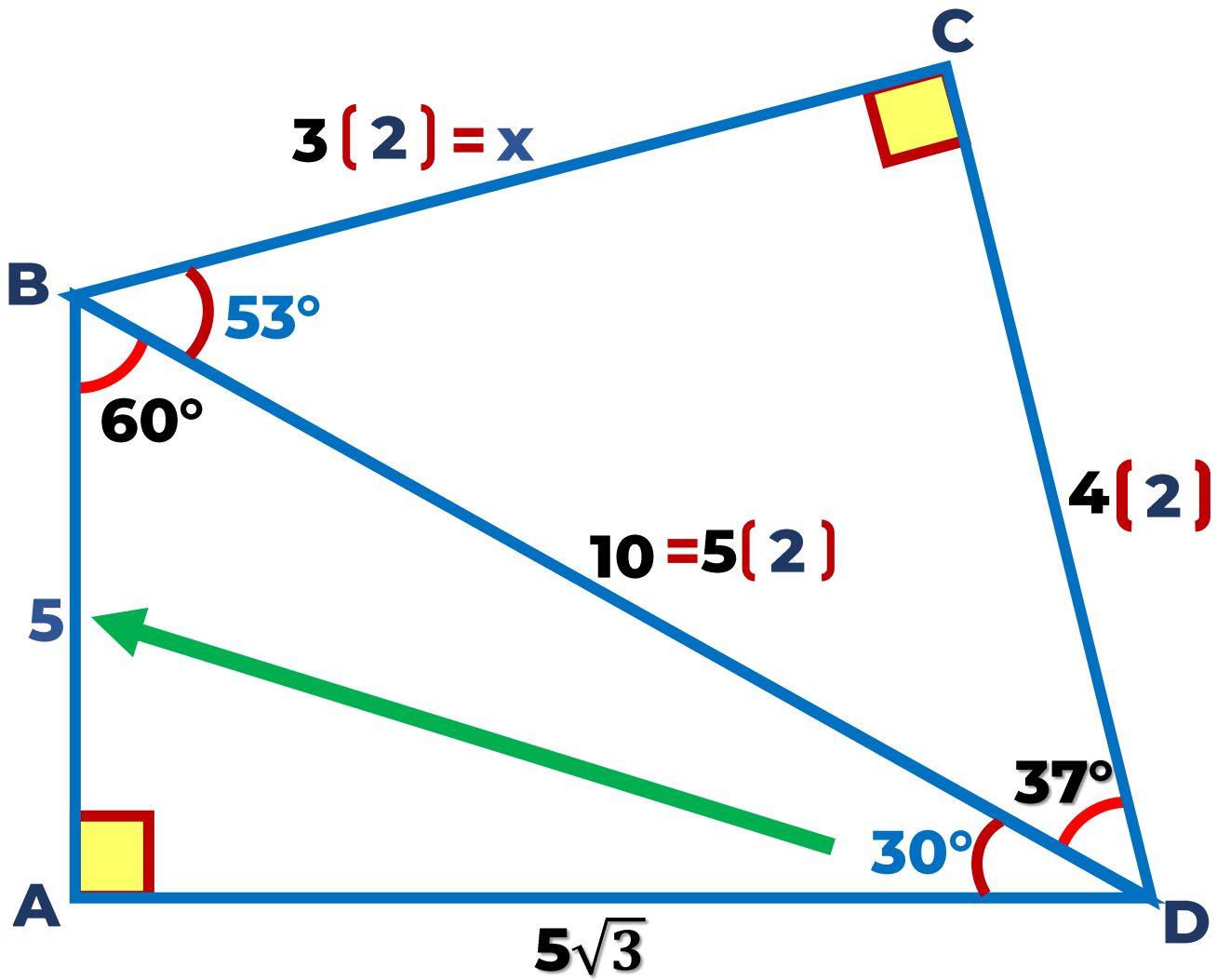
Tomo 3 (Sesión II)

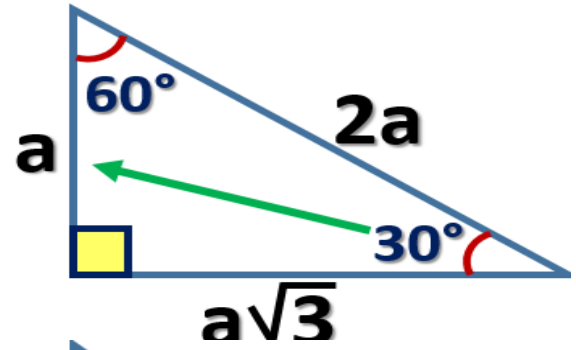
3st
SECONDARY

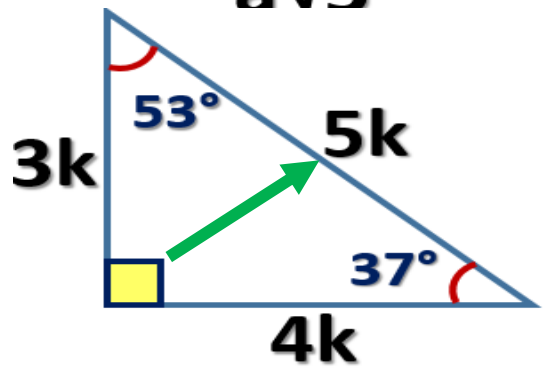
Retroalimentación

SACO OLIVEROS

1. En la siguiente figura, calcule x.



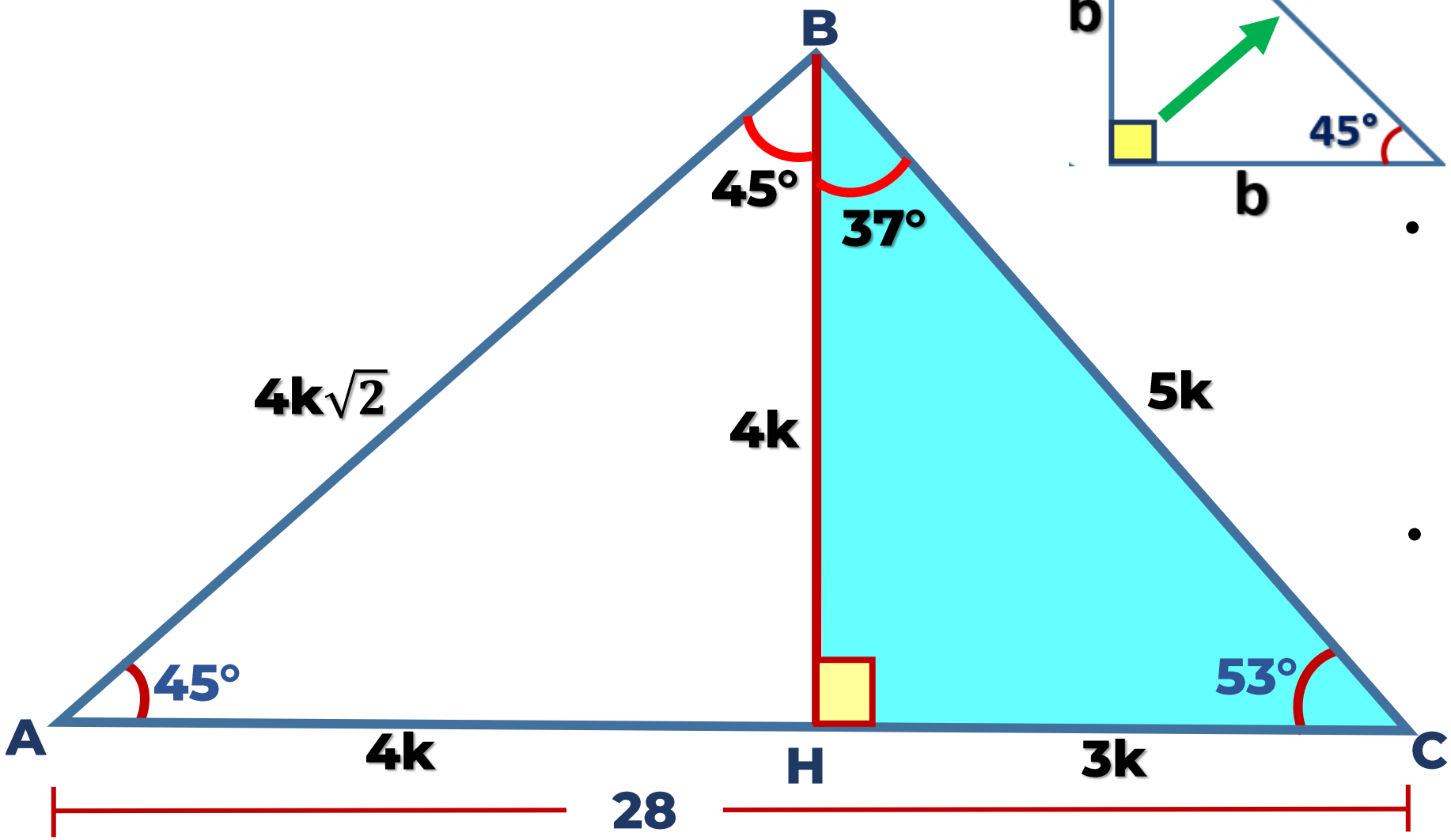


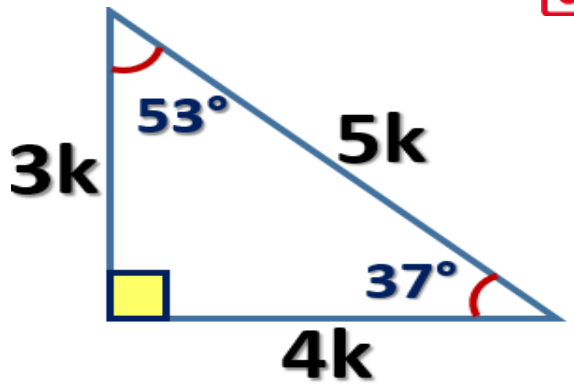


$x = 3(2)$

$x = 6$

2. En la figura, AC = 28, calcule AB.





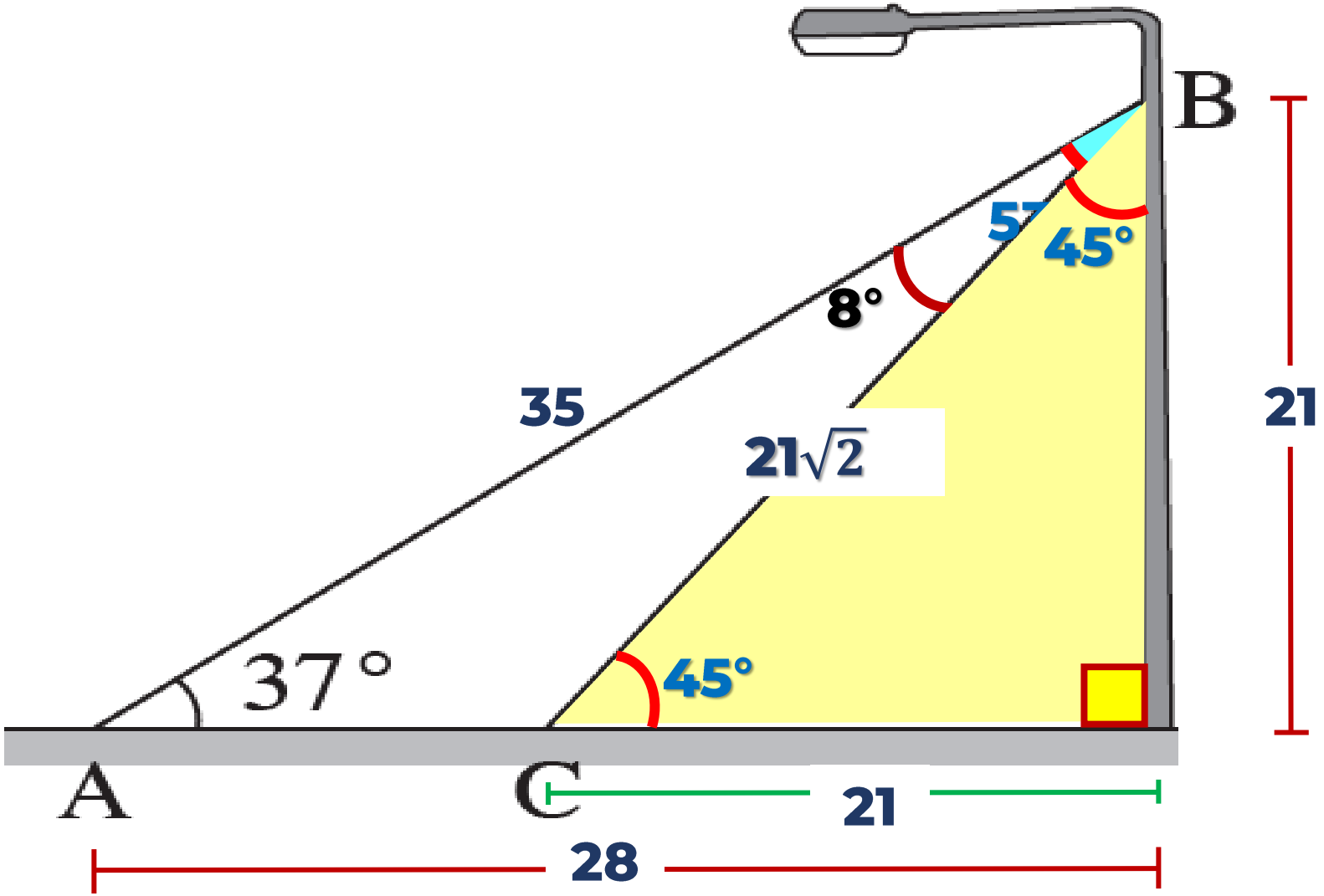
- **Del gráfico**

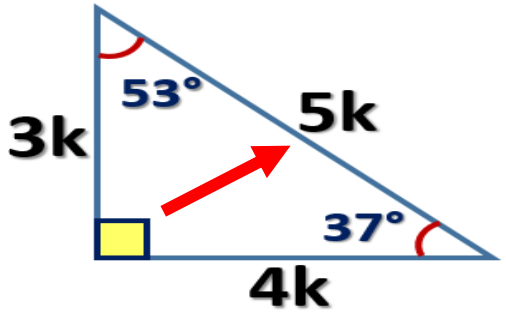
$$AH + HC = AC$$
$$4k + 3k = 28$$
$$7k = 28$$
$$k = 4$$

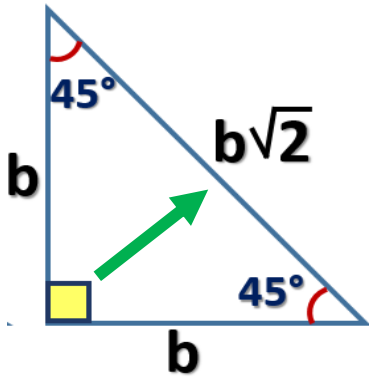
- **Nos piden**

$$AB = 4k\sqrt{2}$$
$$AB = 4(4)\sqrt{2}$$
$$AB = 16\sqrt{2}$$

3. Un poste se sujeta por dos cables, $\overline{BA}$ y $\overline{BC}$, que forman 8°. Si el cable $\overline{AB}$ mide 35m, ¿cuántos metros, aproximadamente, tiene el cable $\overline{BC}$?

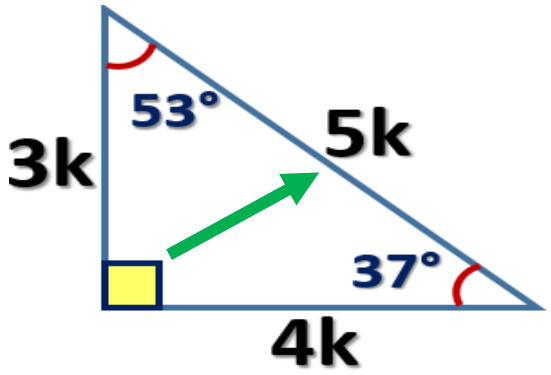






$BC = 21\sqrt{2}m$

4. En la siguiente figura, calcule BC.



H
3k
4k
4k
B
53°
2
5k
2
45°
45°
8°
A
C

Del gráfico

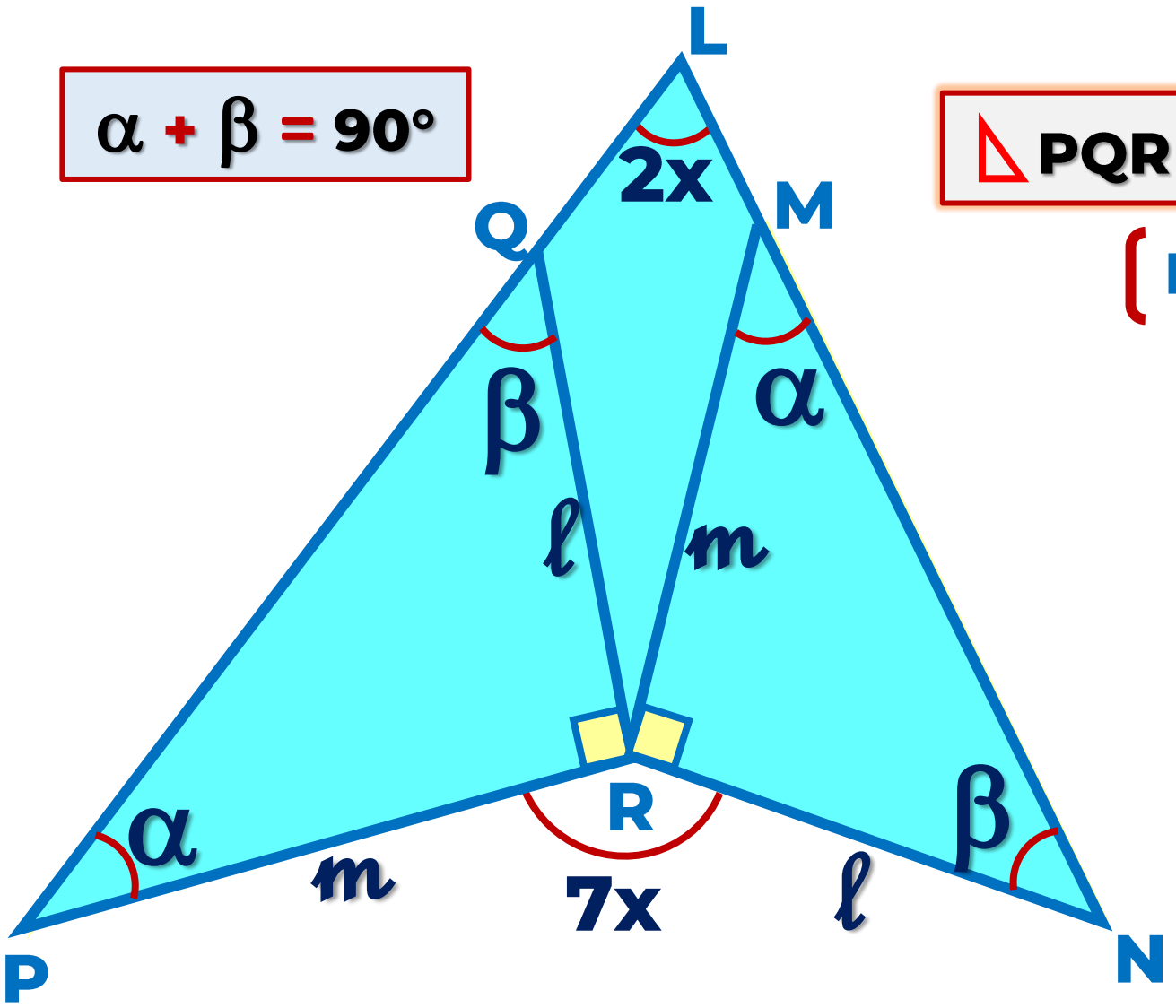
$AB + BH = AH$

$2 + 3k = 4k$

$2 = k$

$BC = 10$

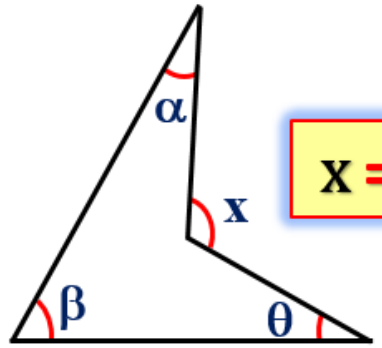
5. En la figura, QR = RN y RM = RP, calcule CD.



$\alpha + \beta = 90°$

$\triangle PQR \cong \triangle MNR$

(L-A-L)



$x = \alpha + \beta + \theta$

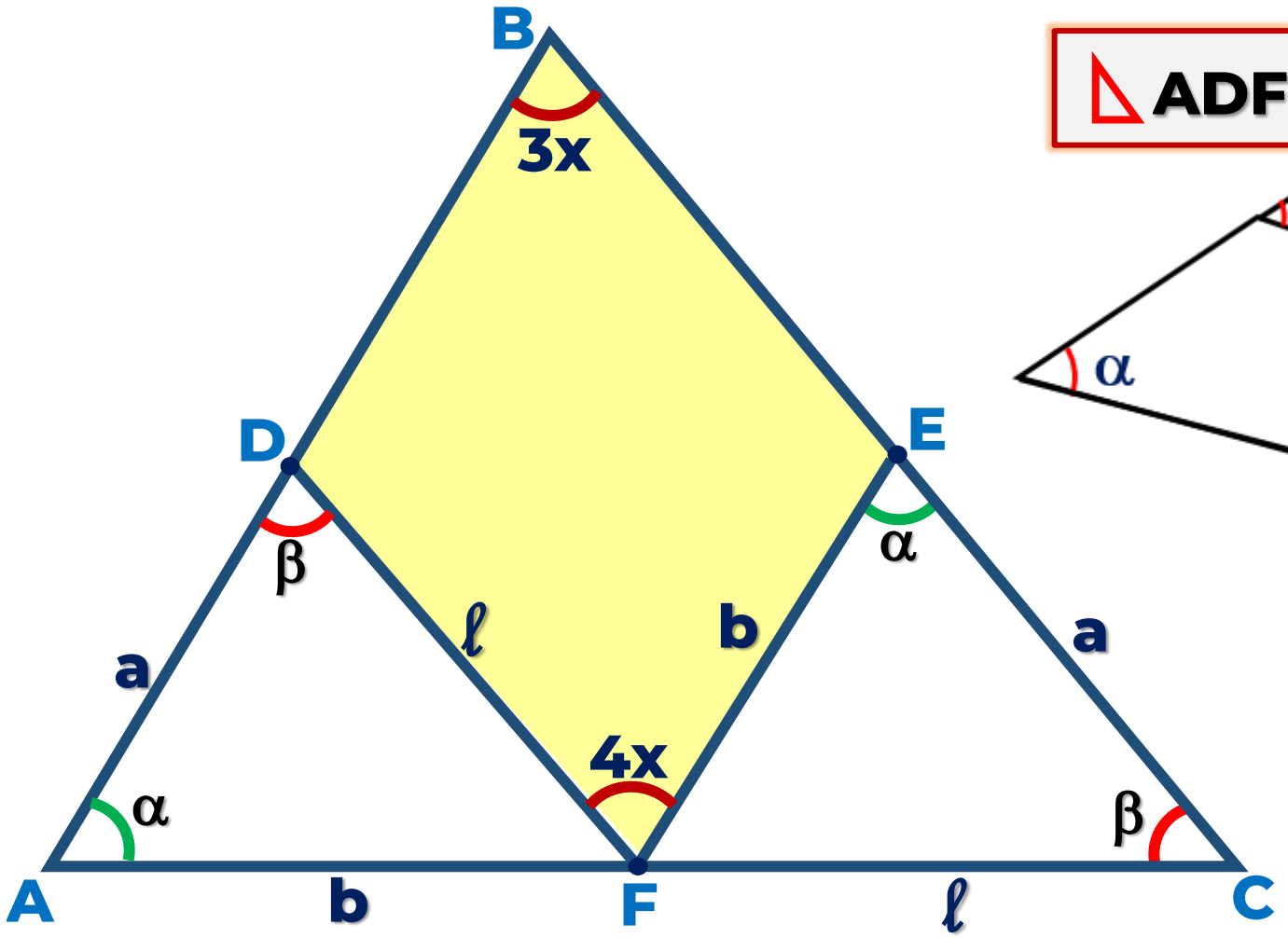
$\alpha + \beta + 2x = 7x$

$\underbrace{\alpha + \beta}_{90°} = 5x$

$90° = 5x$

$18° = x$

6. Se tiene un triángulo ABC, se ubican los puntos D, E y F sobre los lados $\overline{AB}$, $\overline{BC}$ y $\overline{AC}$, respectivamente, AD = EC, AF = FE , DF = FC, m∢ABC = 3x y m∢DFE = 4x. . Calcule x.



$\triangle ADF \cong \triangle ECF$ (L-L-L)

- $\alpha + \beta = 3x + 4x$

  $\alpha + \beta = 7x$

$x + y = \alpha + \beta$

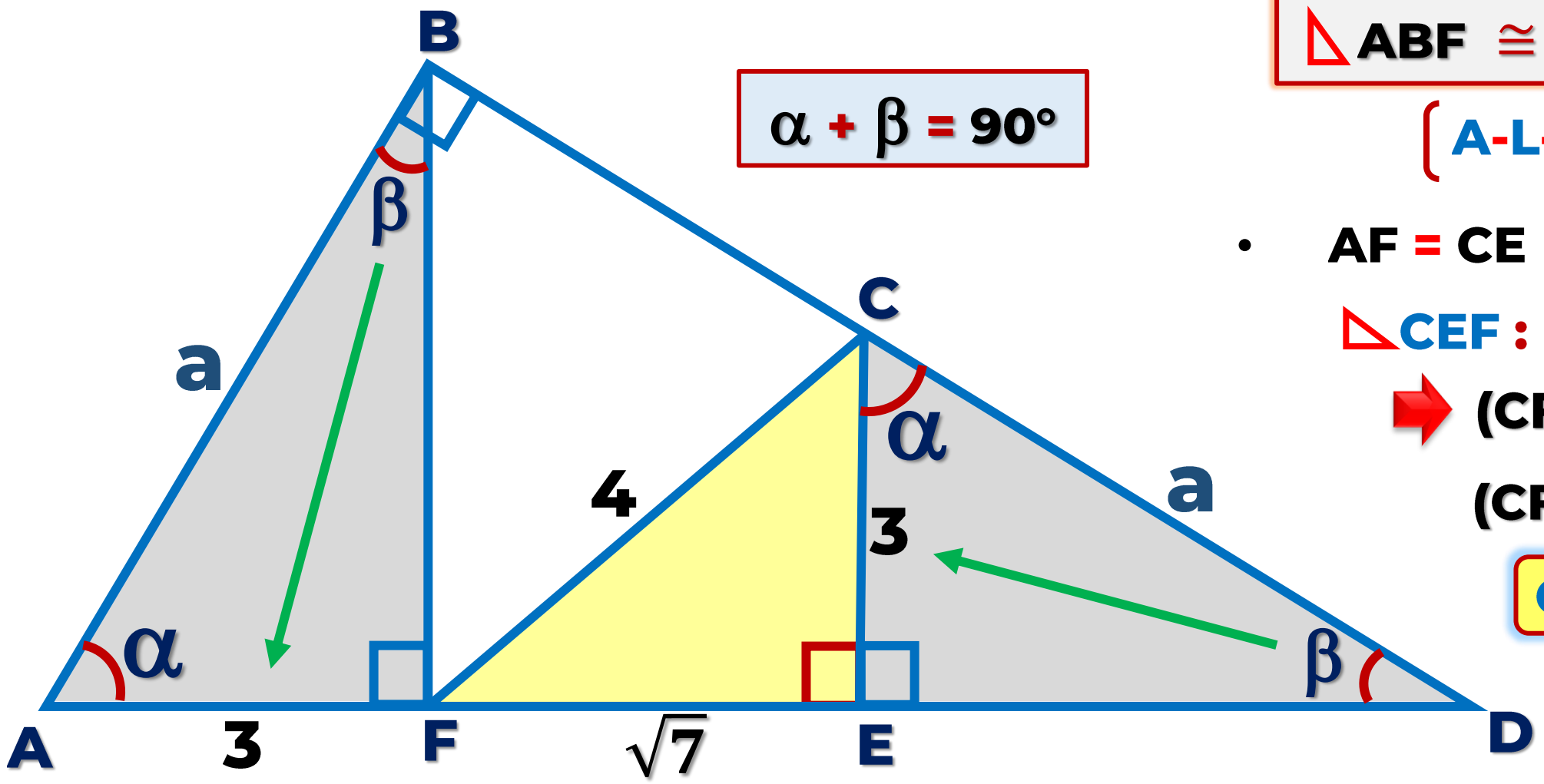
- $\triangle ABC$:

  $\underbrace{\alpha + \beta}_{7x} + 3x = 180°$

  $10x = 180°$

x = 18°

7. En la figura, AB = CD, EF = $\sqrt{7}$ y AF = 3, calcule CF.



$\alpha + \beta = 90°$

$\triangle ABF \cong \triangle CDE$

(A-L-A)

- AF = CE = 3

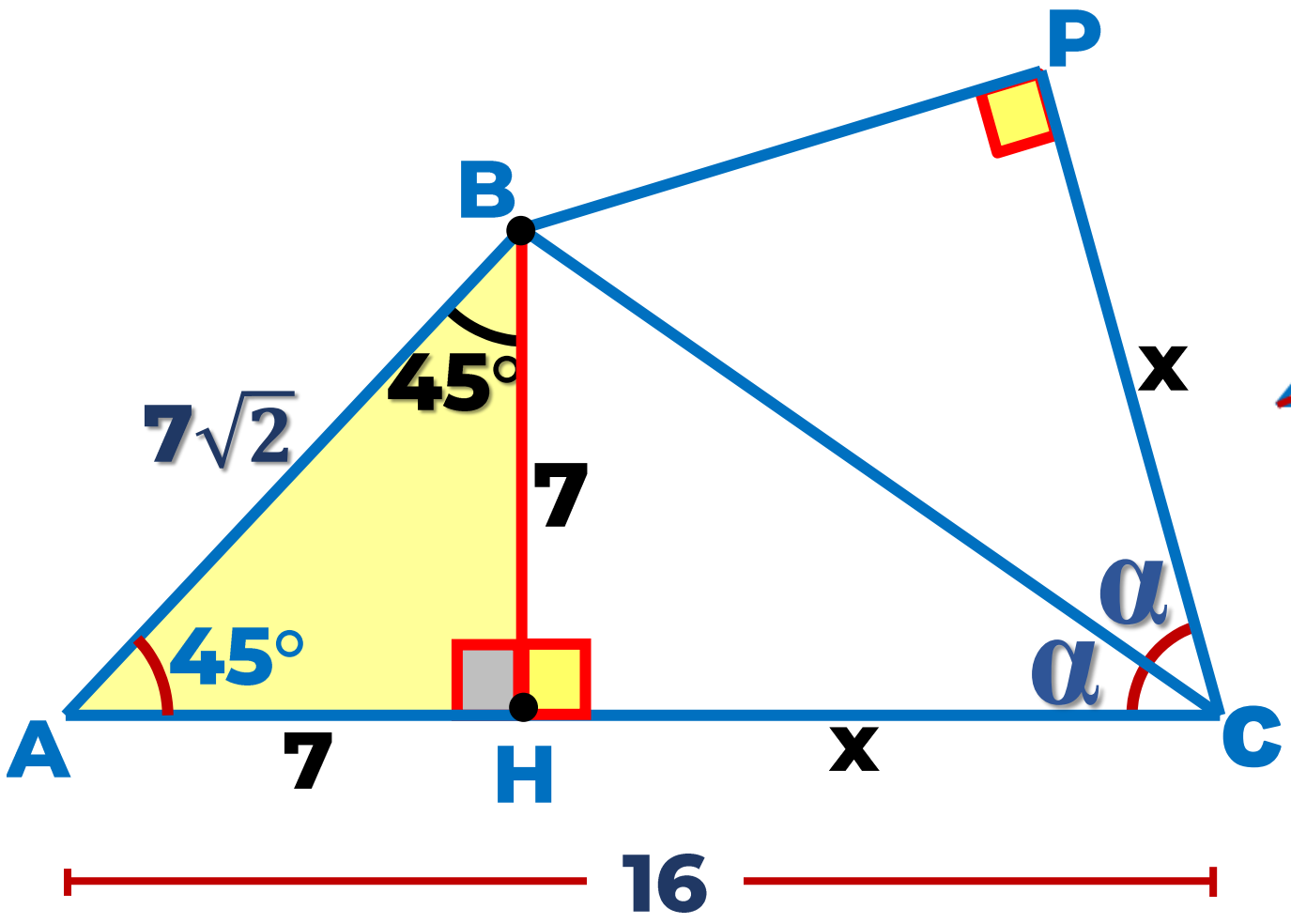
$\triangle CEF$: T. Pitágoras

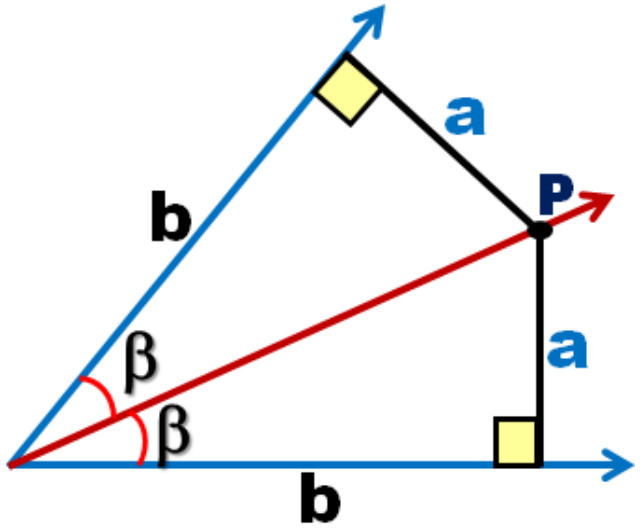
$(CF)^2 = \sqrt{7}^2 + 3^2$

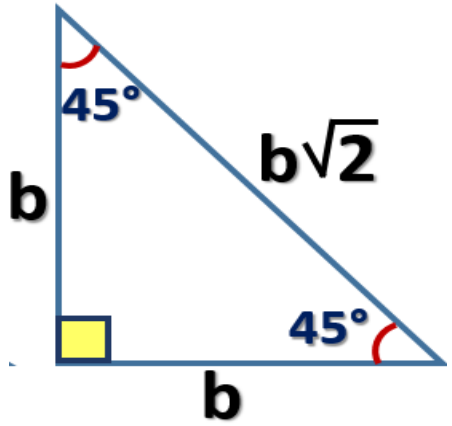
$(CF)^2 = 16$

CF = 4

8. En la figura, calcule CP.





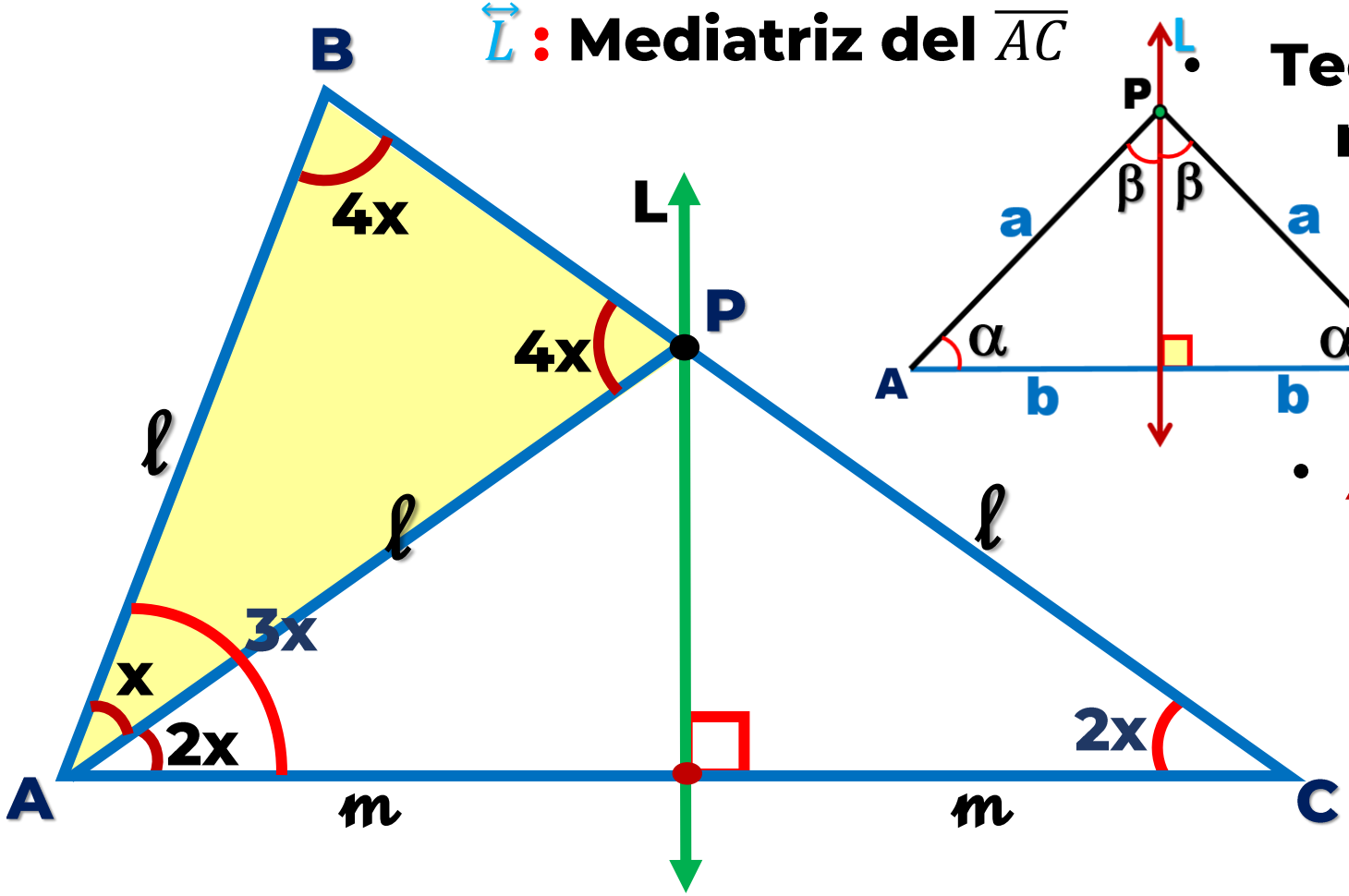


Del gráfico :

$7 + x = 16$

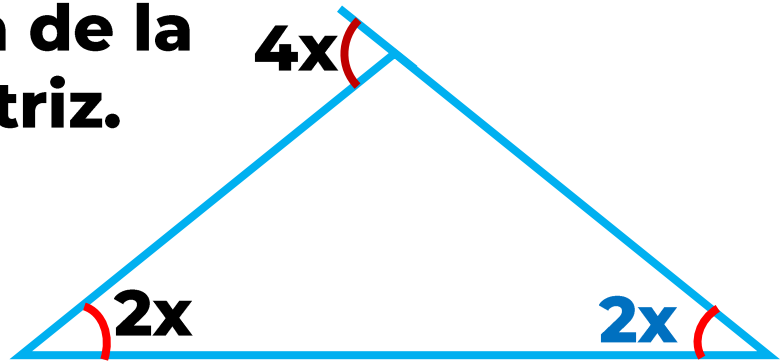
$x = 9$

9. En un triángulo ABC, donde la m∢BCA = 2x, m∢BAC = 3x, la mediatriz de $\overline{AC}$ intersecta a $\overline{BC}$ en P, tal que AB = PC. Calcule x.



$\overleftrightarrow{L}$: Mediatriz del $\overline{AC}$

Teorema de la mediatriz.



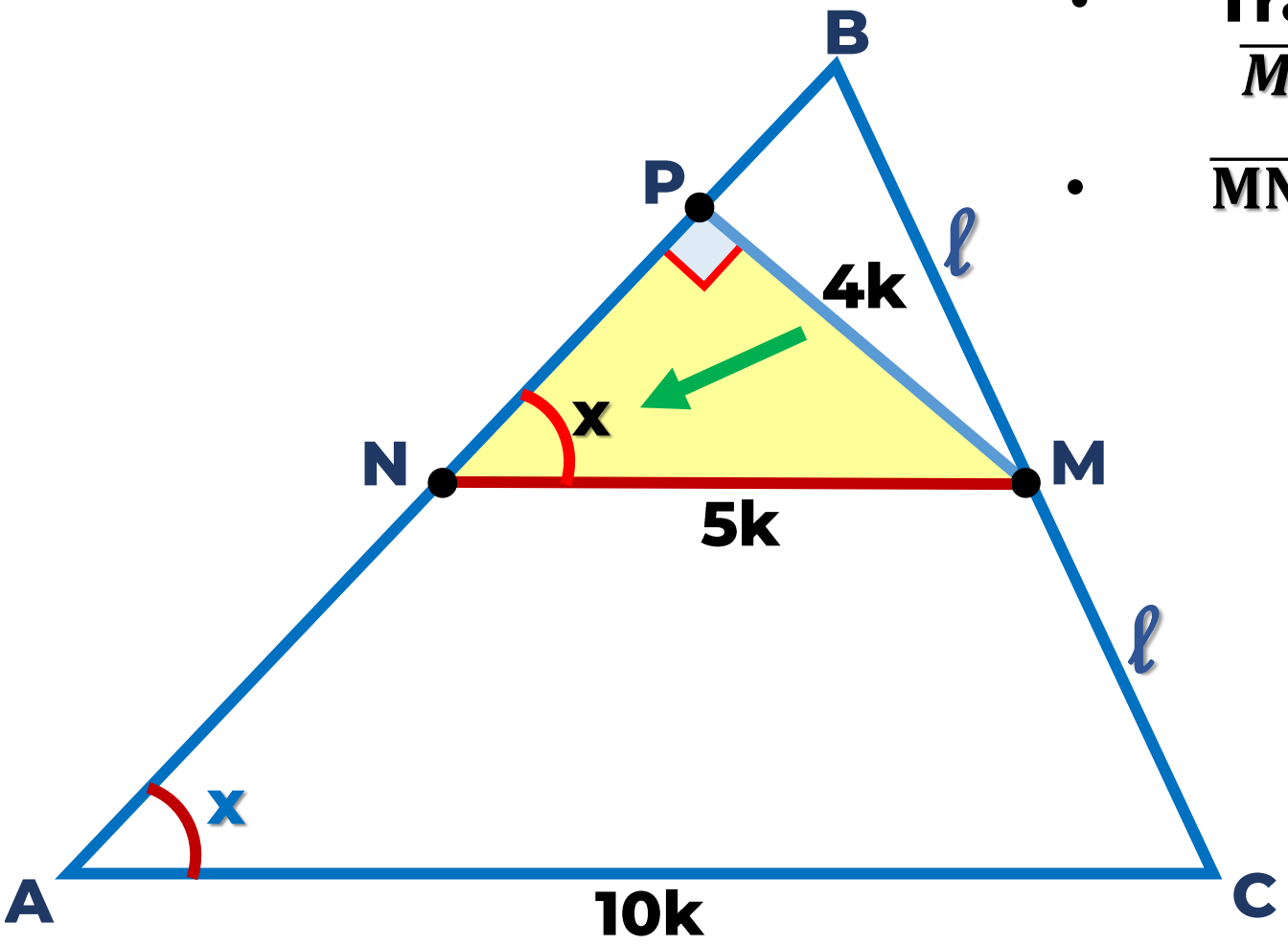
- △PAB : Isósceles

$x + 4x + 4x = 180°$

$9x = 180°$

$x = 20°$

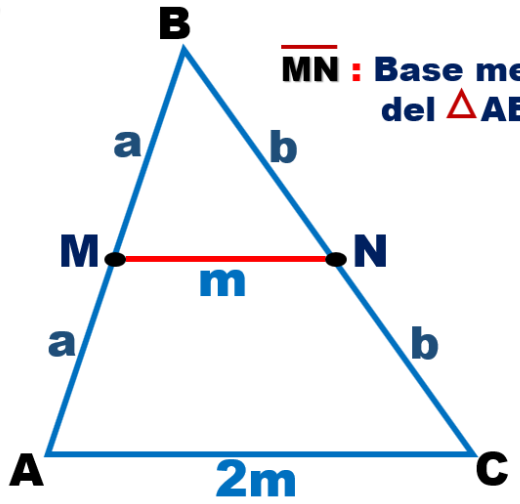
10. En un triángulo ABC, M es punto medio de $\overline{BC}$, se ubica en $\overline{AB}$ el punto P; tal que, m∡APM = 90°, PM = 4k y AC = 10k, calcule m∡BAC.



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

$$MN = \frac{AC}{2}$$

$$\overline{MN} \parallel \overline{AC}$$



$\overline{MN}$: Base media del △ABC.

MNP: Notable de 37° y 53°

x = 53°