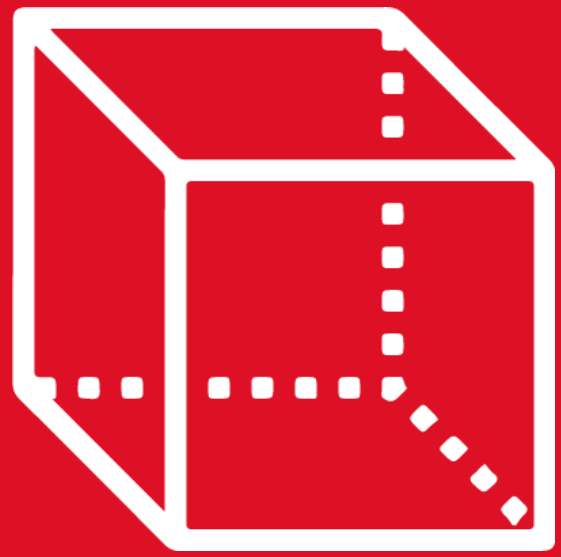
GEOMETRÍA

TOMO VI



2nd
SECONDARY

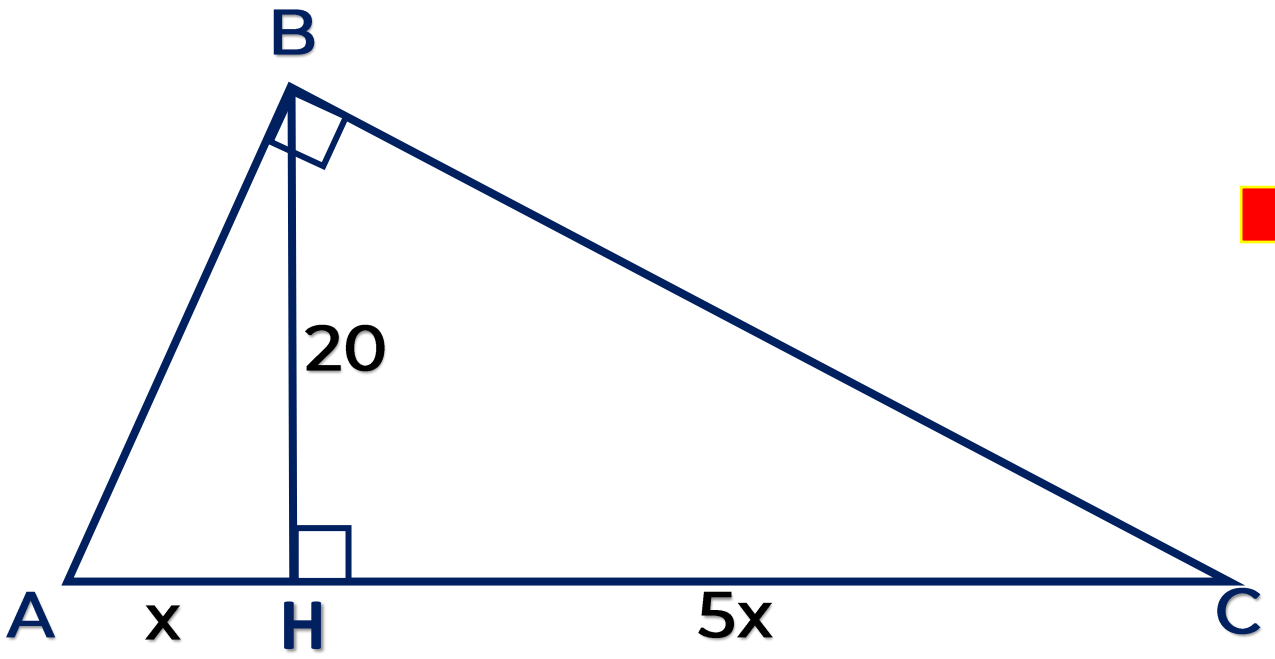
Asesoría

SACO OLIVEROS

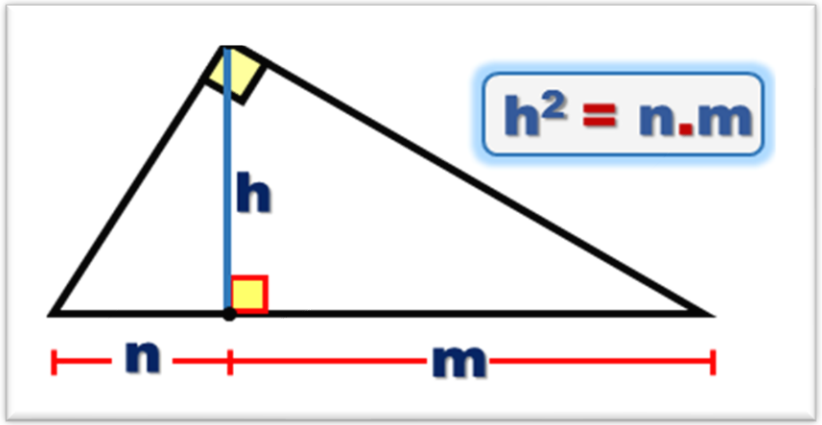
1. En un triángulo ABC, recto en B de traza la altura $\overline{BH}$. Si AH= x, HC= 5x y BH = 20, halle el valor de x

Resolución

Piden: x



TEOREMA



$20^2 = (x)(5x)$

$400 = 5x^2$

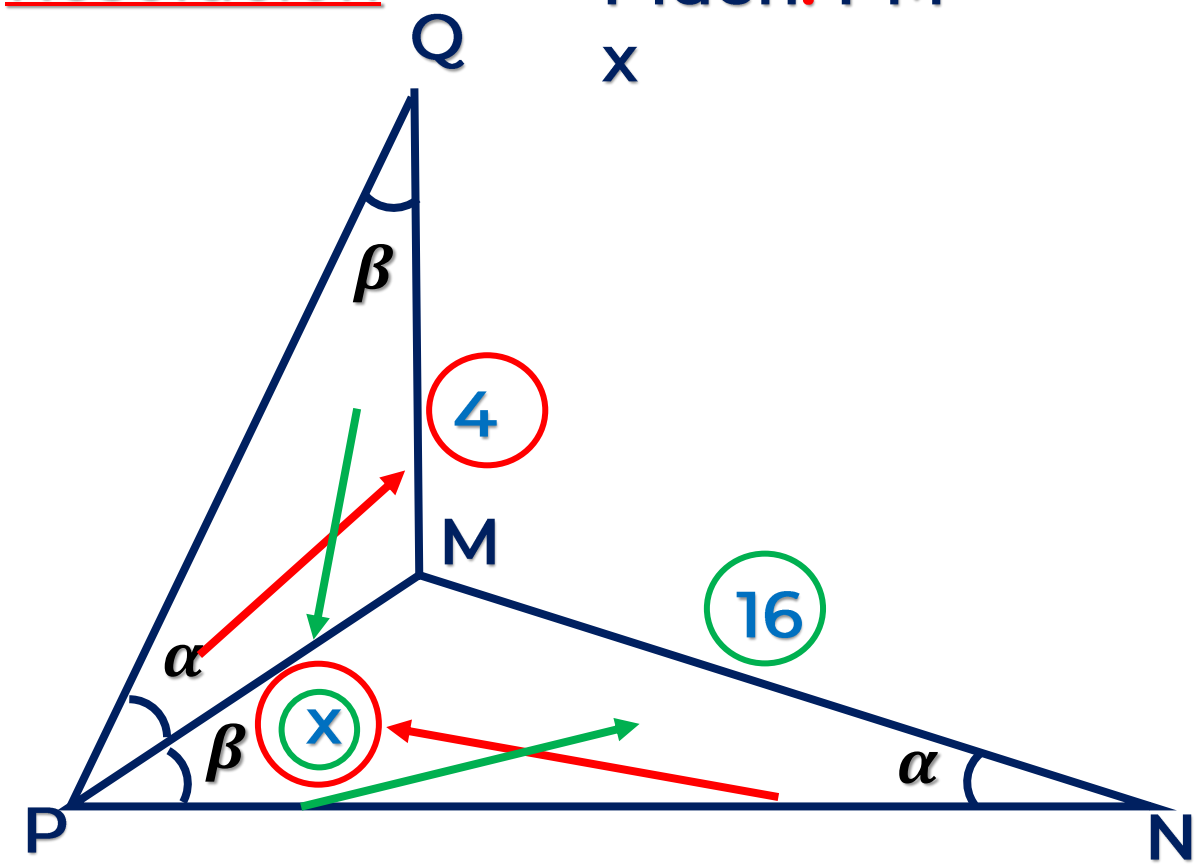
$80 = x^2$

$X = 4\sqrt{5}$

2. En la figura, QM = 4 , MN = 16, halle el valor de PM

Resolución

Piden: PM = x



Δ PMQ ~ Δ NMP

(A-A–A)

$$\frac{x}{16} = \frac{4}{x}$$

$$x \cdot x = 16 \cdot 4$$

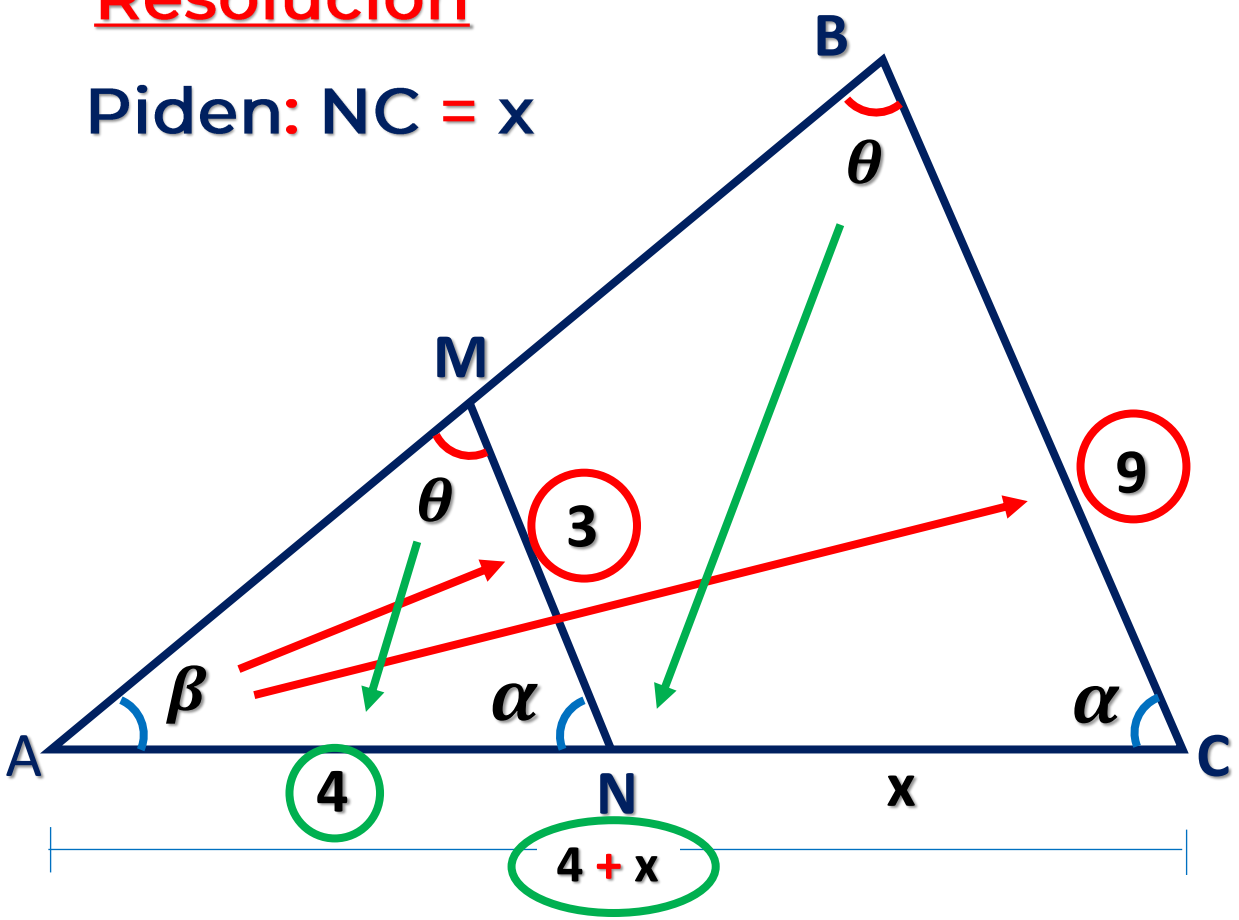
$$x^2 = 64$$

X = 8

3. Se tiene un triángulo ABC, donde M ∈ $\overline{AB}$, N ∈ $\overline{AC}$ y m<ANM = m<ACB. Si BC = 9m, MN = 3m y AN = 4m; halle NC.

Resolución

Piden: NC = x



$\Delta ABC \sim \Delta AMN$

(A – A – A)

$$\frac{\cancel{3}^{1}}{\cancel{9}_{3}} = \frac{4}{4+x}$$

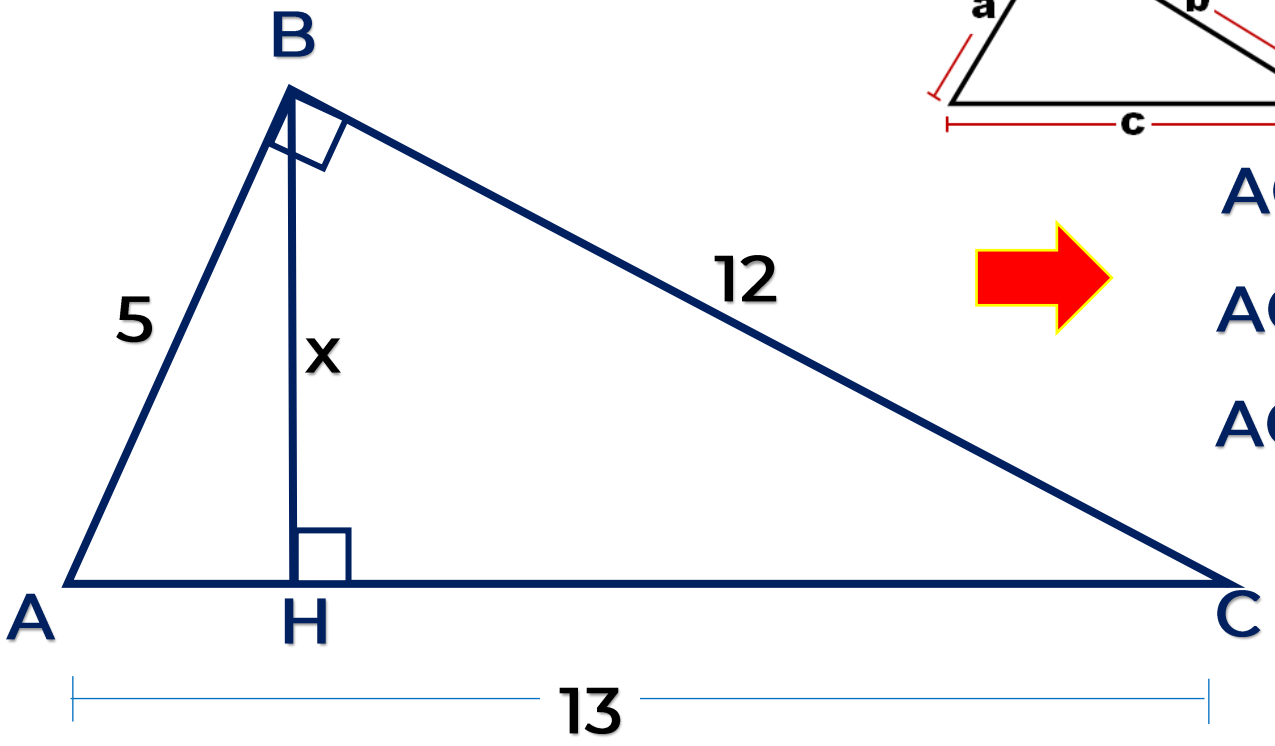
4 + x = 12

x = 8 m

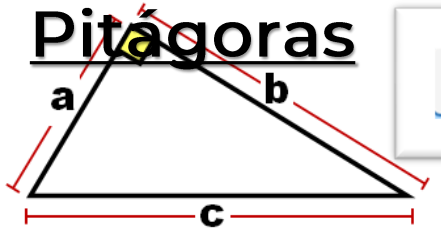
4. En un triángulo ABC, recto en B de traza la altura $\overline{BH}$. Si AB= 5, BC= 12, halle el valor de BH

Resolución

Piden: BH = x



Teorema de Pitágoras



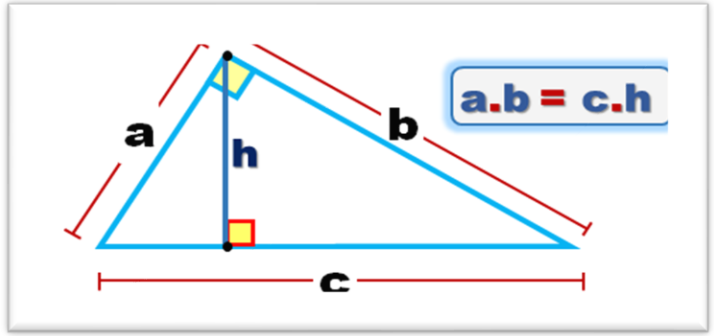
$c^2 = a^2 + b^2$

$AC^2 = 5^2 + 12^2$

$AC^2 = 25 + 144$

$AC^2 = 169$

$AC = 13$



$(5)(12) = (13)(x)$

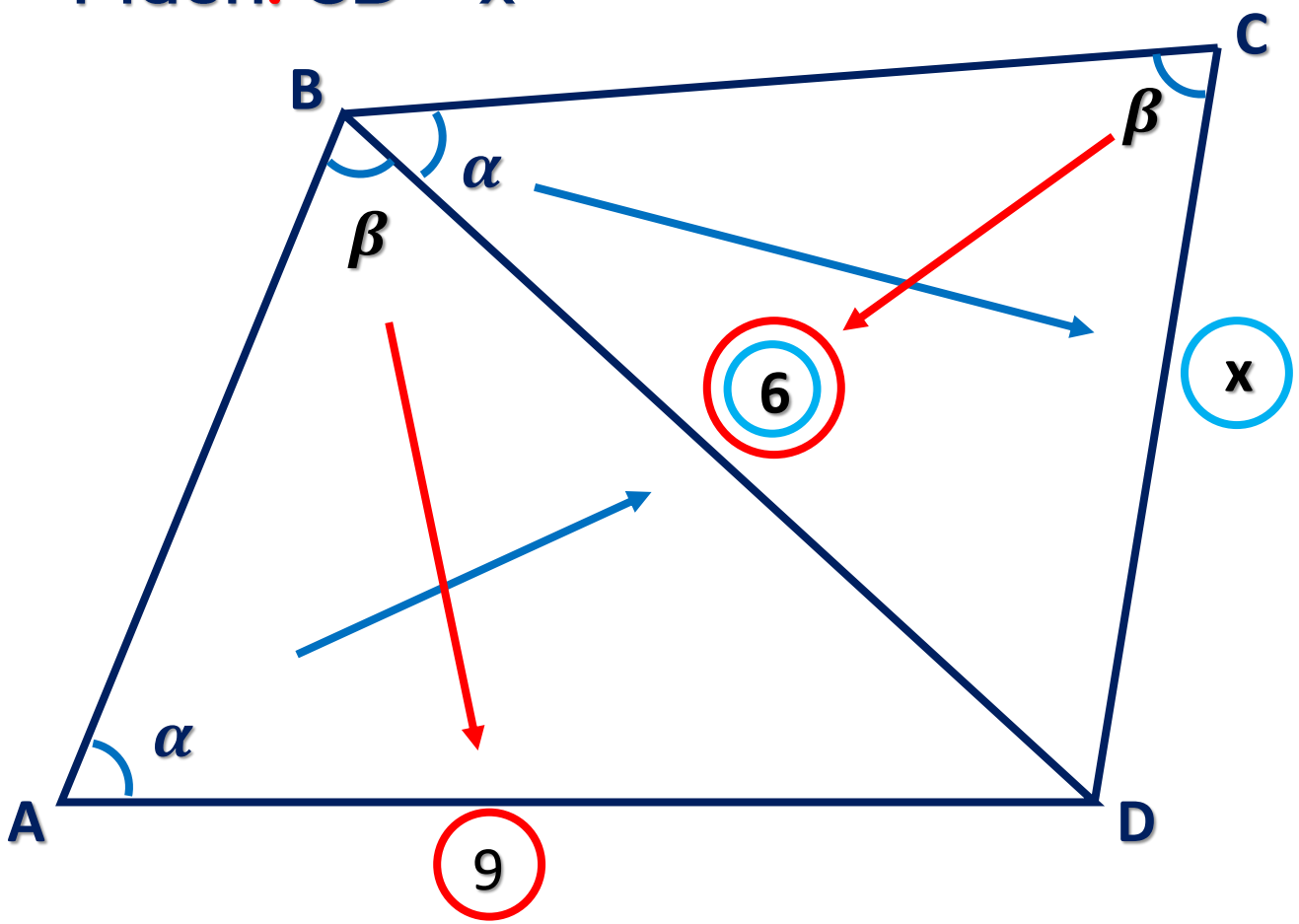
$60 = 13x$

$BH = \frac{60}{13}$

5. En la figura, si AD = 9m y BD = 6m, halle el valor de CD

Resolución

Piden: CD = x



$\Delta BCD \sim \Delta ABC$

(A-A–A)

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

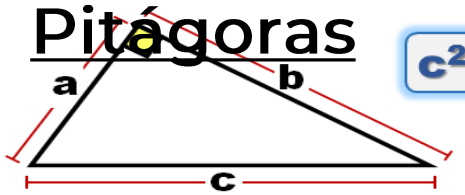
$$9 . x = 6 . 6$$

$$9 . x = 36$$

$$x = 4\ m$$

6. En el gráfico, halle el valor de AB

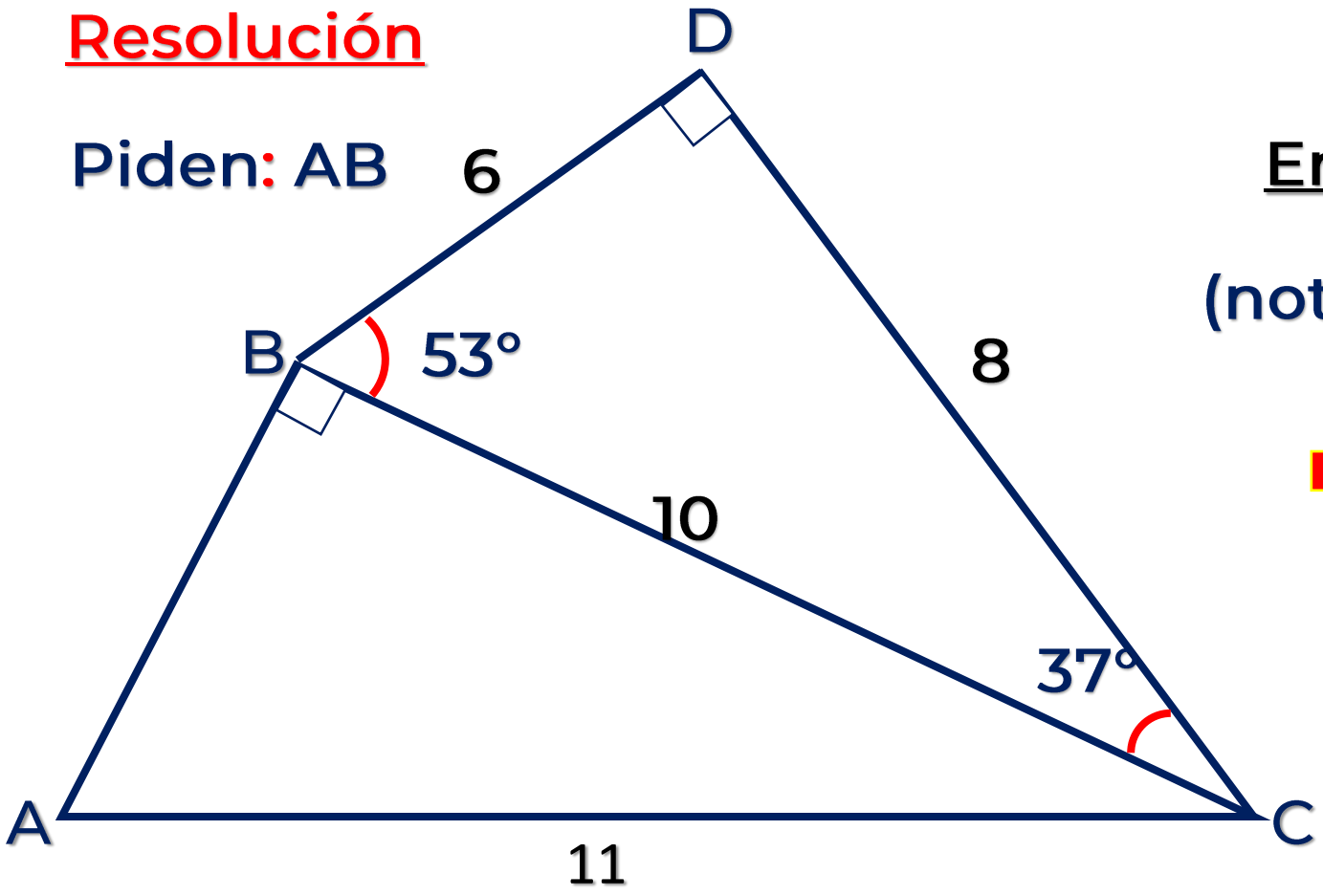
Teorema de Pitágoras



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

Resolución

Piden: AB



En el ⊿ BDC

(notable 37°-53°)

➡ BC = 10

En el ⊿ ABC

$AB^2 + 10^2 = 11^2$

$AB^2 + 100 = 121$

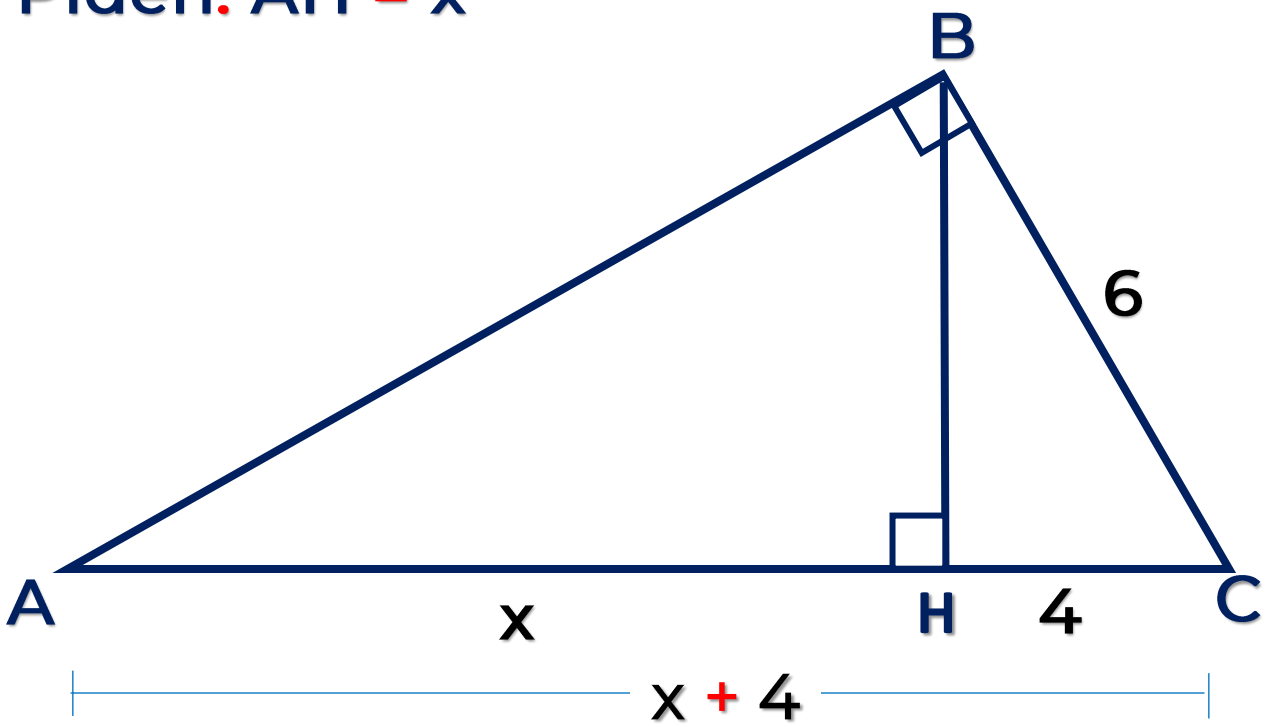
$AB^2 = 21$

$AB = \sqrt{21}$

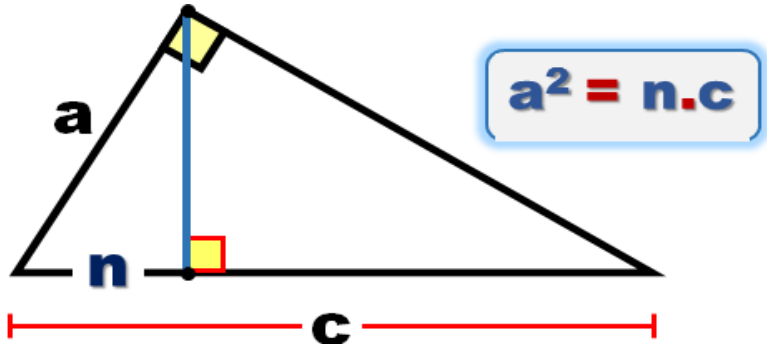
7. En un triángulo ABC, recto en B de traza la altura $\overline{BH}$. Si HC= 4, BC= 6, halle el valor de AH

Resolución

Piden: AH = x



TEOREMA



$6^2 = 4(x + 4)$

$36 = 4(x + 4)$

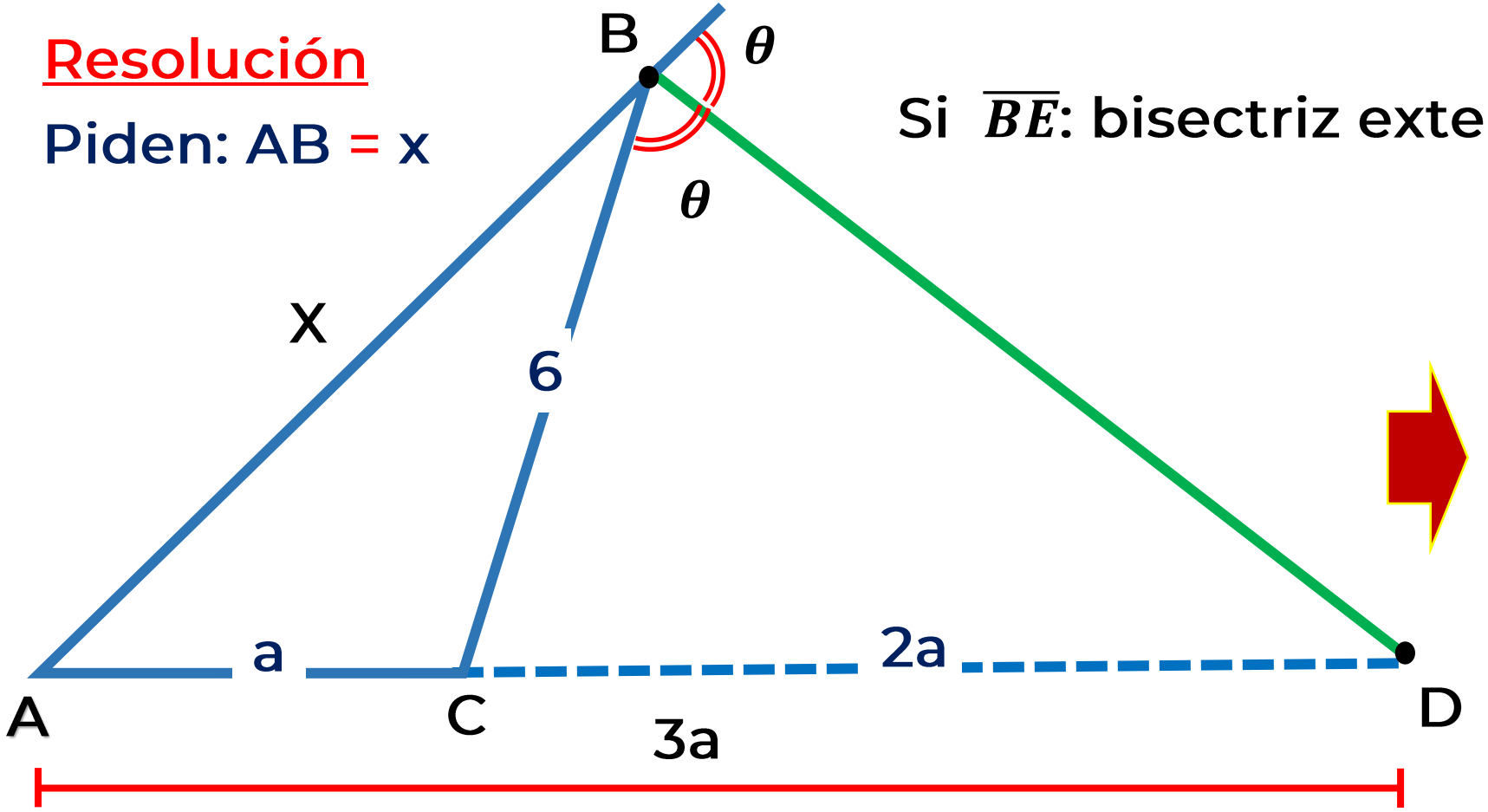
$9 = x + 4$

X = 5

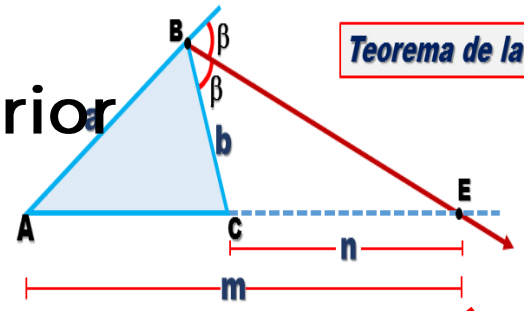
8. En el triángulo ABC se traza la bisectriz exterior $\overline{BD}$, donde D ∈ a la prolongación de $\overline{AC}$. Si CD = 2 (AC) y BC = 6. halle AB

Resolución

Piden: AB = x



Si $\overline{BE}$: bisectriz exterior



Teorema de la Bisectriz Exterior

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

$$\frac{x}{6} = \frac{3a}{2a}$$

$$2x = 18$$

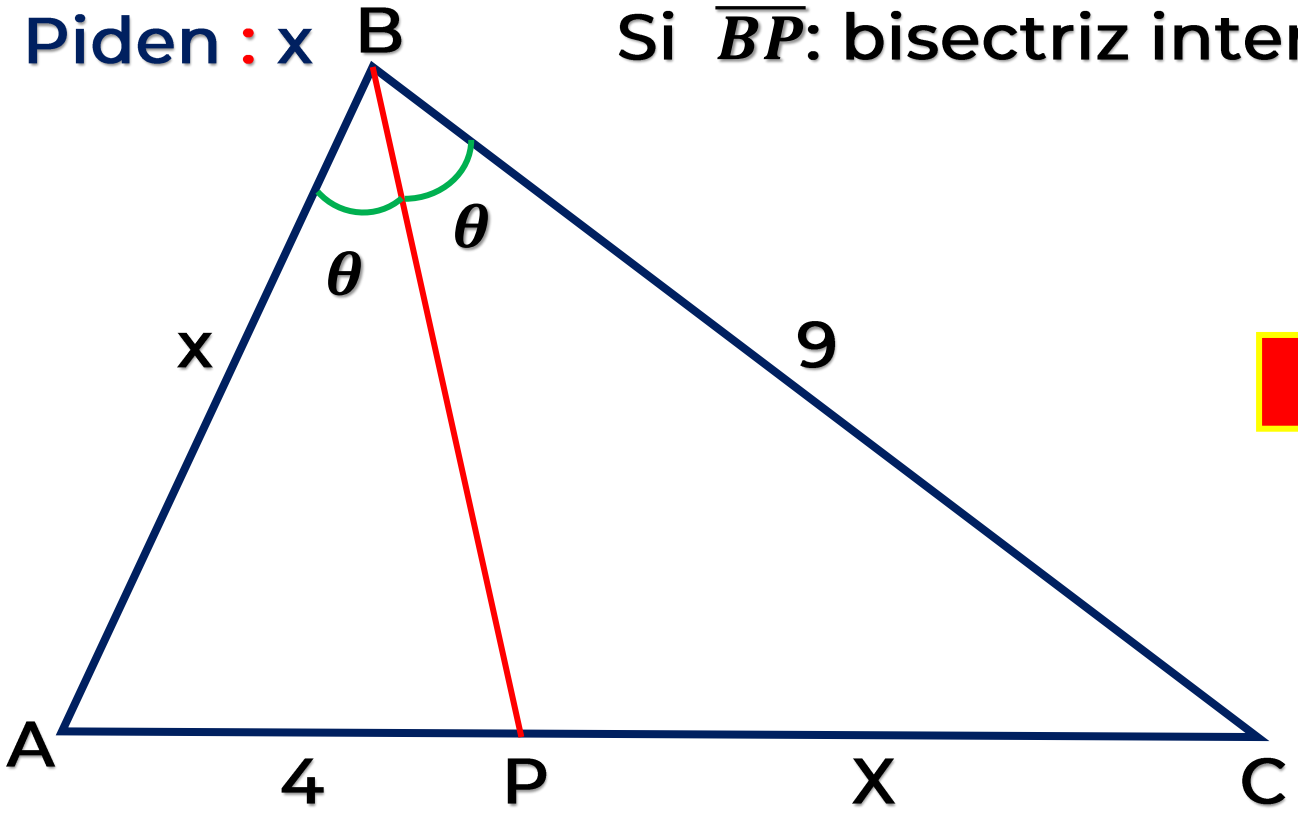
$$X = 9$$

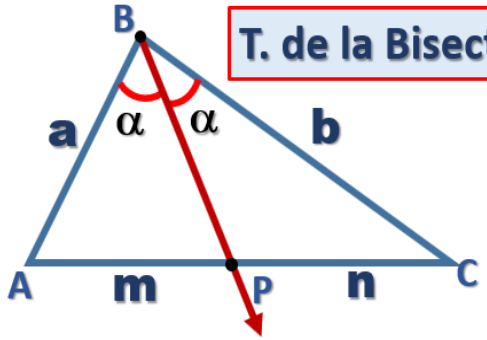
9. Halle el valor de x.

Resolución

Piden : x

Si $\overline{BP}$: bisectriz interior





T. de la Bisectriz Interior

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

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

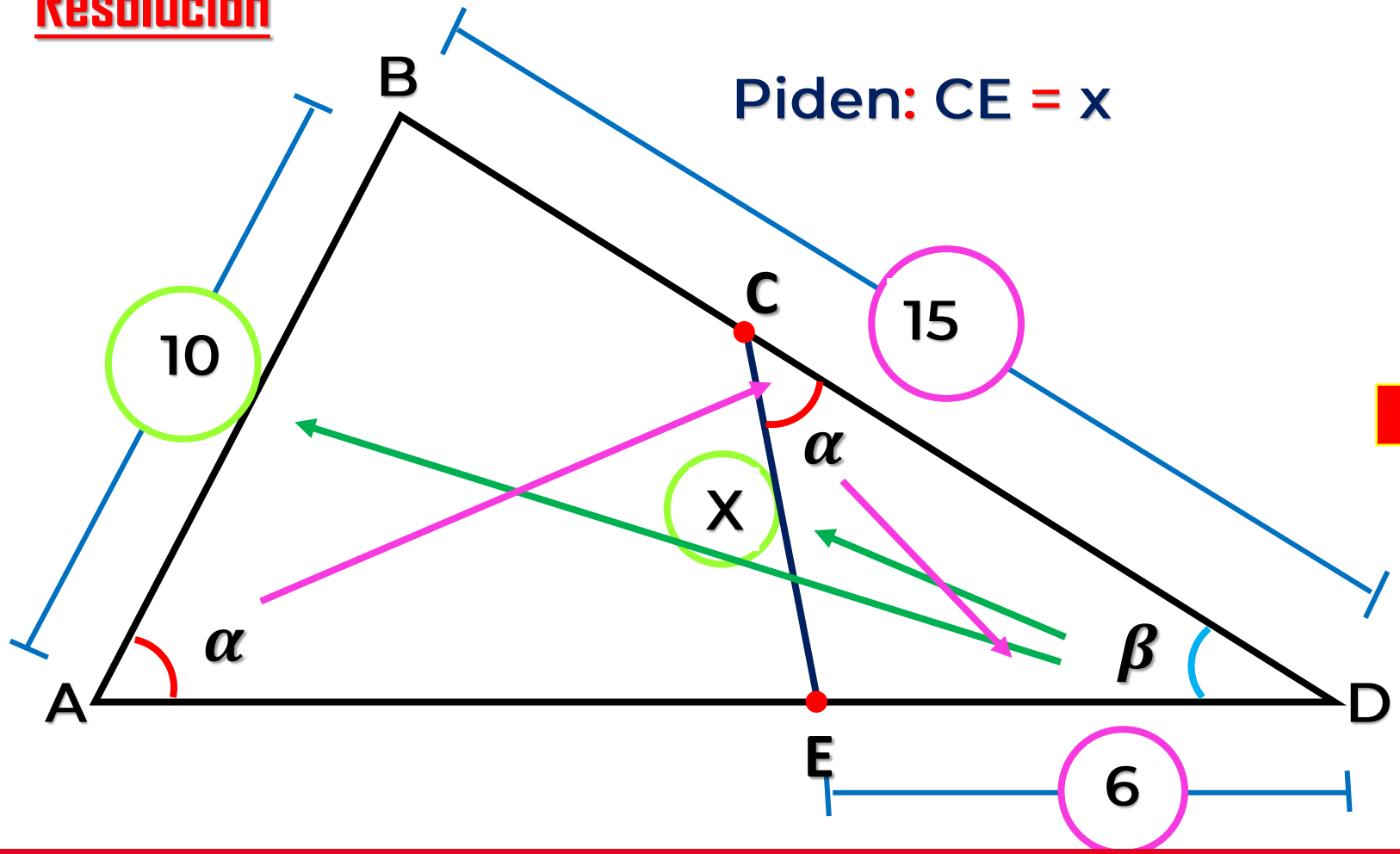
$$x \cdot x = (4)(9)$$

$$x^2 = 36$$

$$X = 6$$

10. Se tiene un triángulo ABD, donde C ∈ $\overline{BD}$, E ∈ $\overline{AD}$ y m<BAD = m<ECD. Si AB = 10, BD = 15 y ED = 6; halle CE.

Resolución



Piden: CE = x

Δ CED ~ Δ ABD

(A – A – A)

$$\frac{x}{10} = \frac{6}{15}$$

(15).(x) = (10).(6)

15.X = 60

X = 4