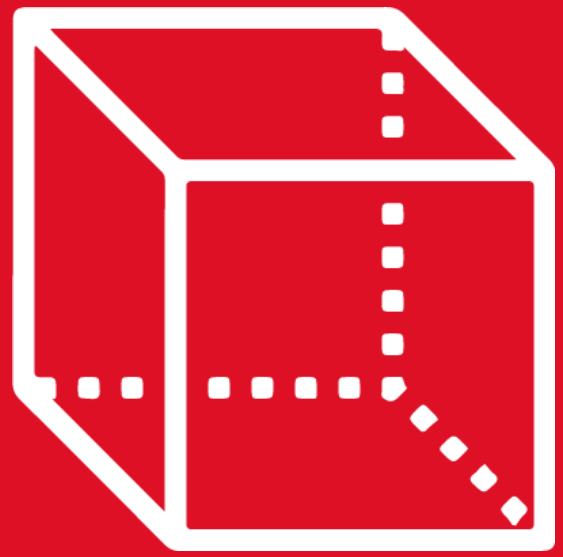
GEOMETRÍA

TOMO 6



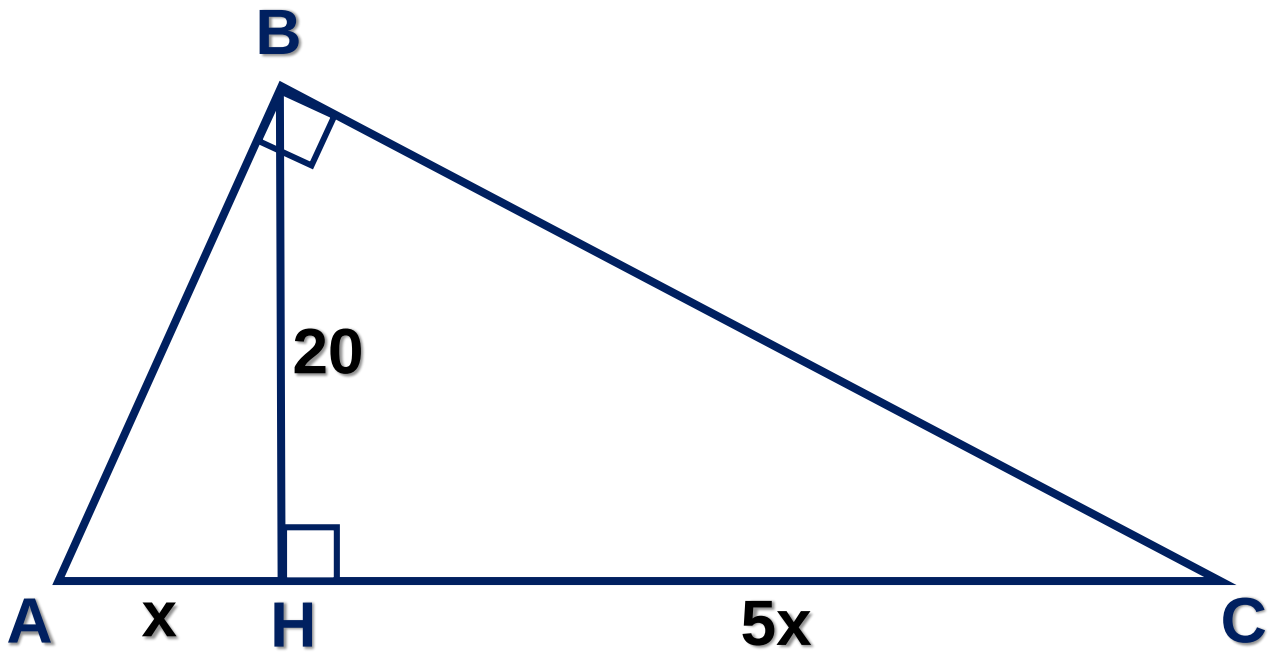
2nd

SECONDARY

Asesoría

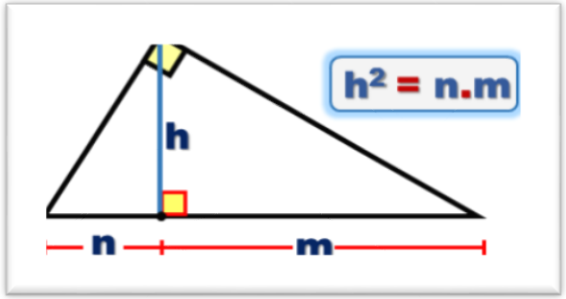
SACO OLIVEROS

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



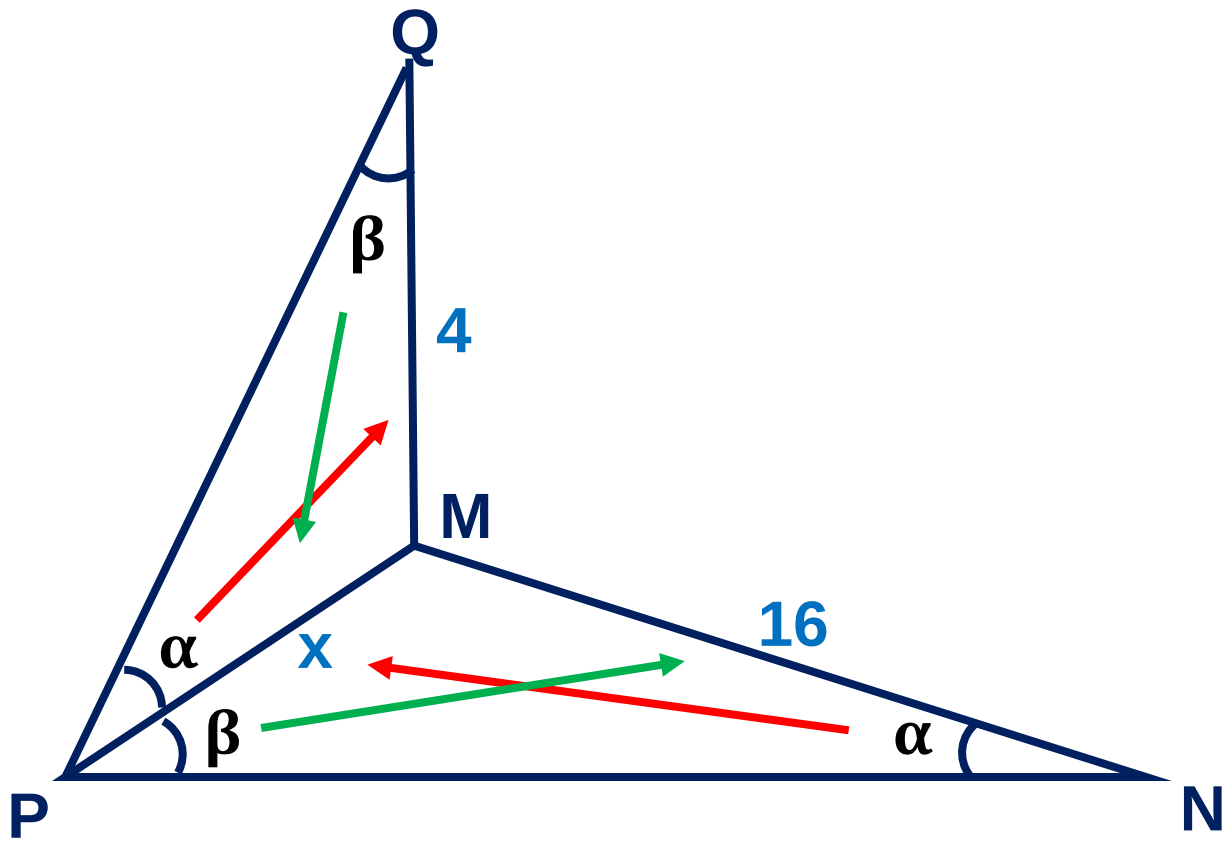
$20^2 = (x)(5x)$

$400 = 5x^2$

$80 = x^2$

$X = 4\sqrt{5}$

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



Resolución

- Piden: x
- $\triangle PMQ \sim \triangle NMP$

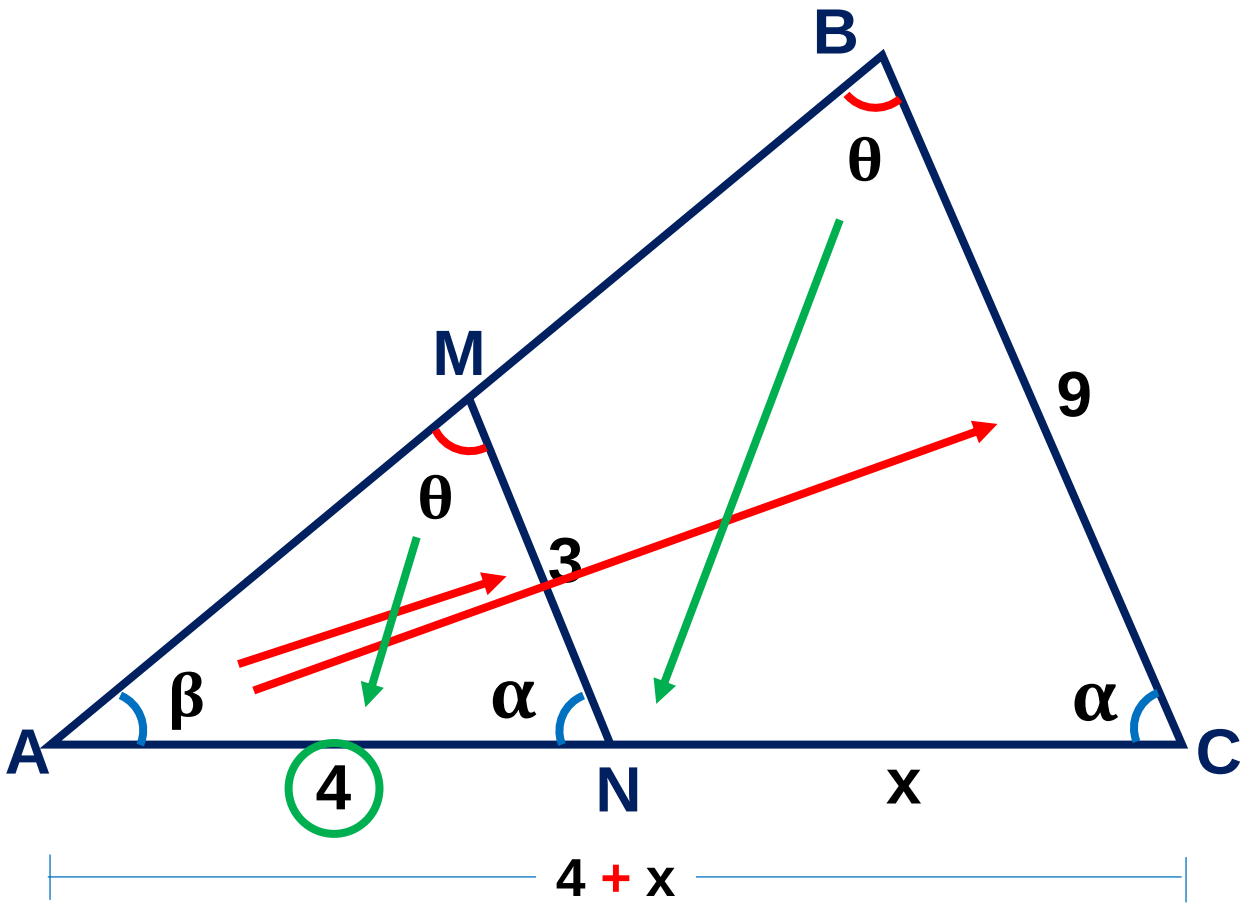
$$\frac{x}{16} = \frac{4}{x}$$

$$x.x = 16.4$$

$$x^2 = 64$$

$$\boxed{x = 8}$$

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



Resolución

- Piden: x
- $\Delta ABC \sim \Delta AMN$

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

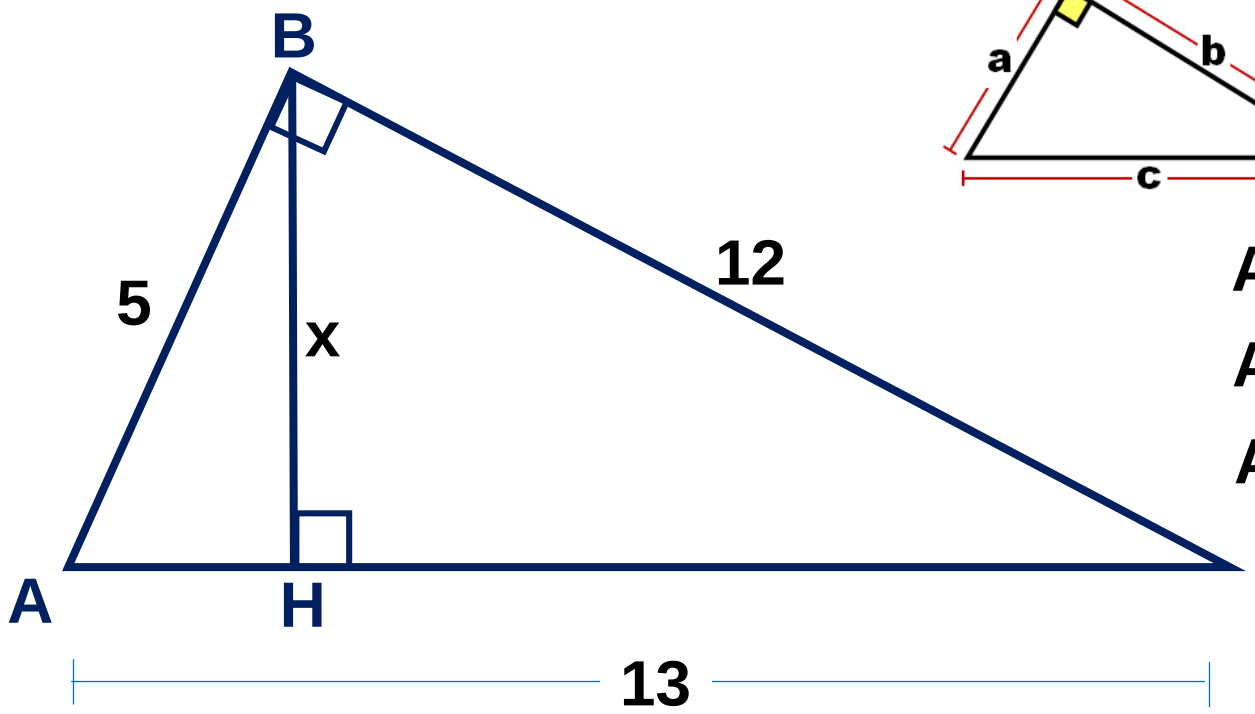
$4 + x = 12$

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: x



Teorema de Pitágoras

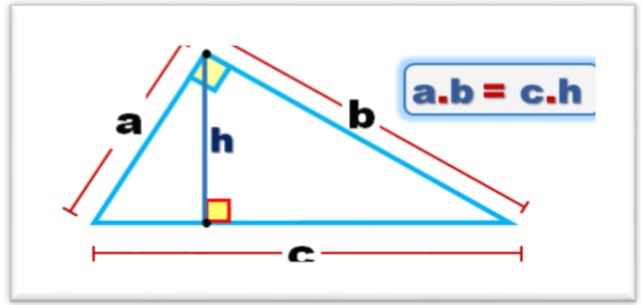
$c^2 = a^2 + b^2$

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

$AC^2 = 25 + 144$

$AC^2 = 169$

$AC = 13$

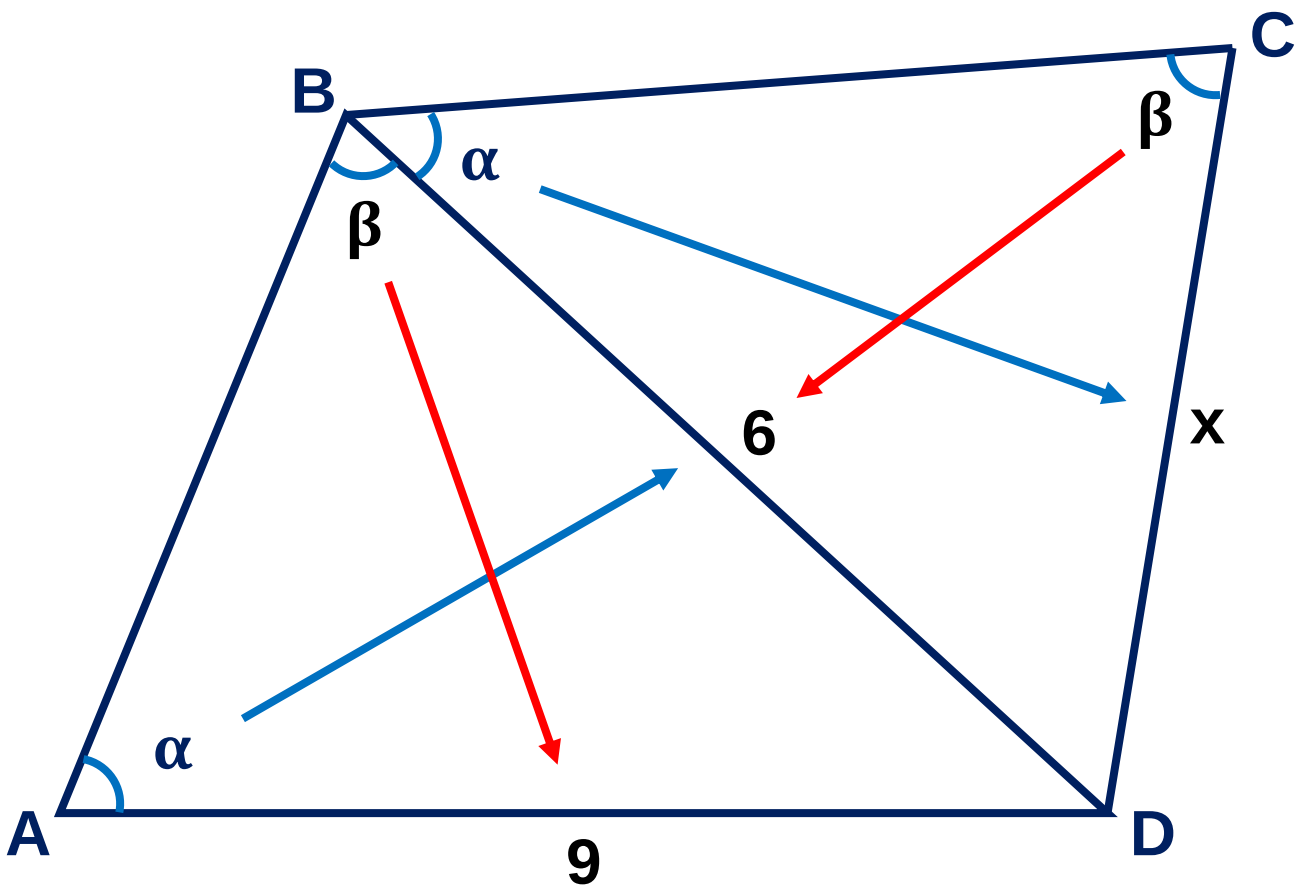


$(5)(12) = (13)(x)$

$60 = 13x$

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

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



Resolución

- Piden: x
- Δ BCD ~ Δ ABC

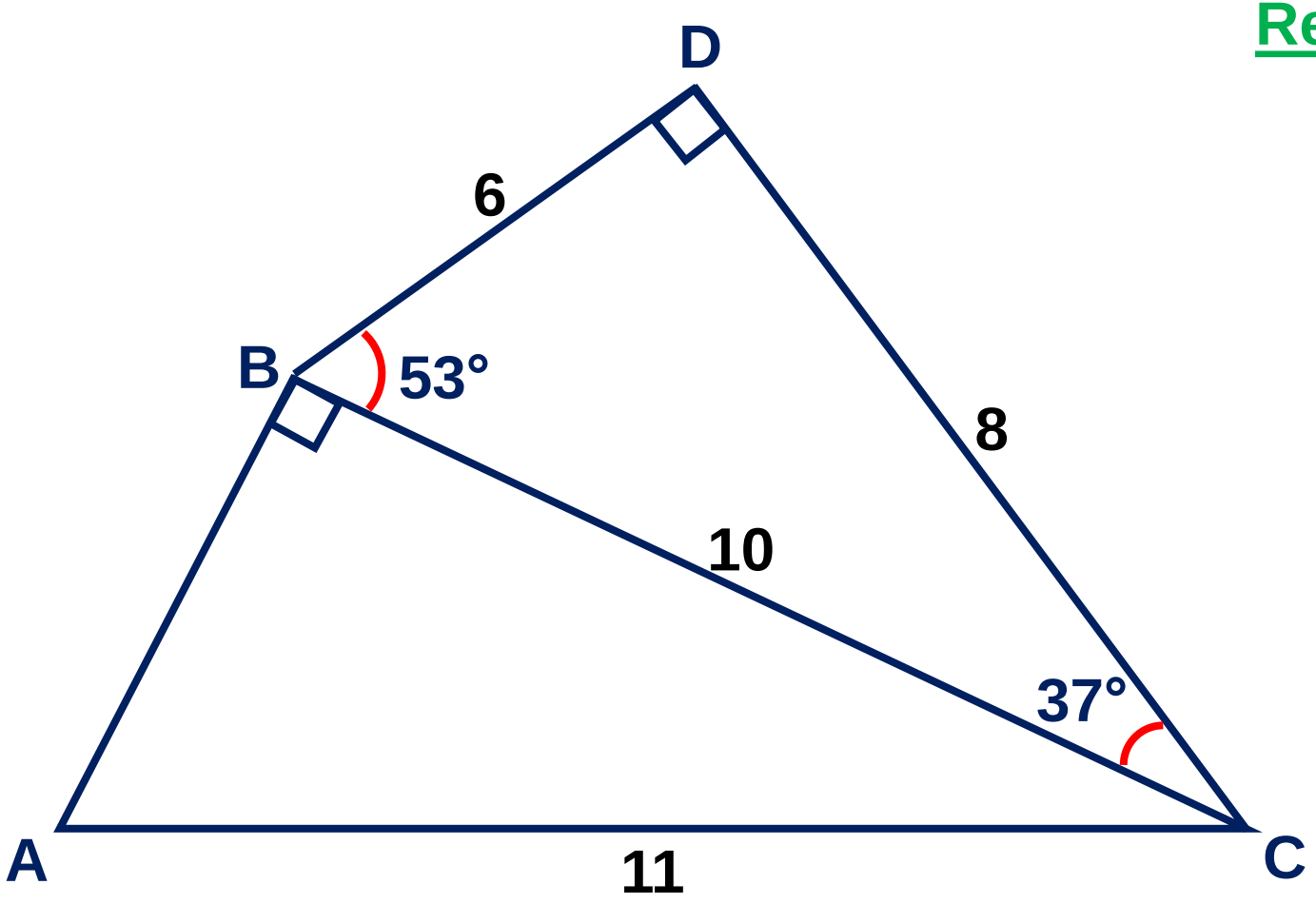
$$\frac{x}{6} = \frac{6}{9}$$

$$9.x = 6.6$$

$$9x = 36$$

$$x = 4 \text{ m}$$

6. En el gráfico, halle el valor de AB



Resolución

- Piden: AB
- En el ⊿BDC: Notable 37°- 53°

$$BC = 10$$

- En el ⊿ABC: T. De Pitágoras.

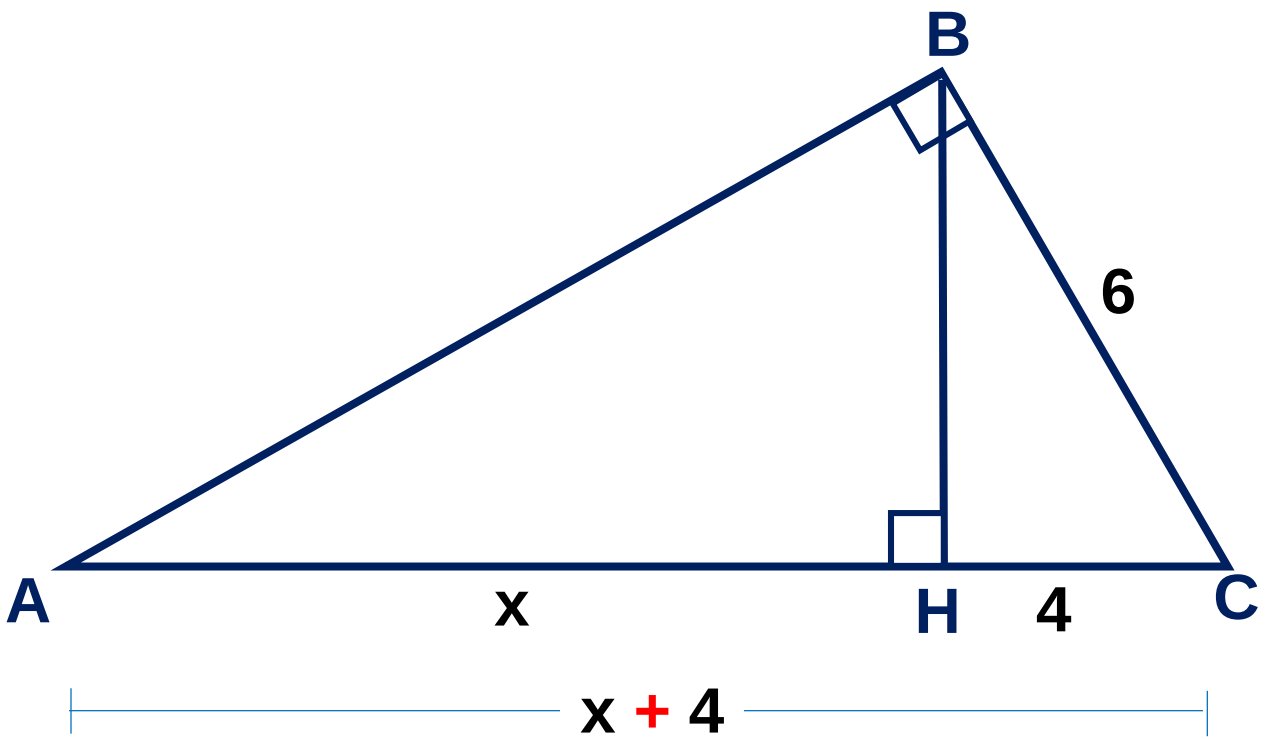
$$AB^2 + 10^2 = 11^2$$

$$AB^2 + 100 = 121$$

$$AB^2 = 21$$

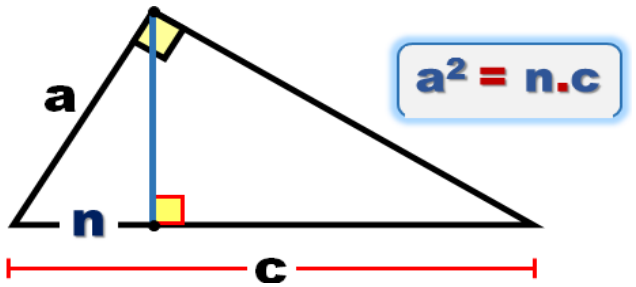
$$AB = \sqrt{21}$$

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



Resolución

- Piden: x
- Teorema



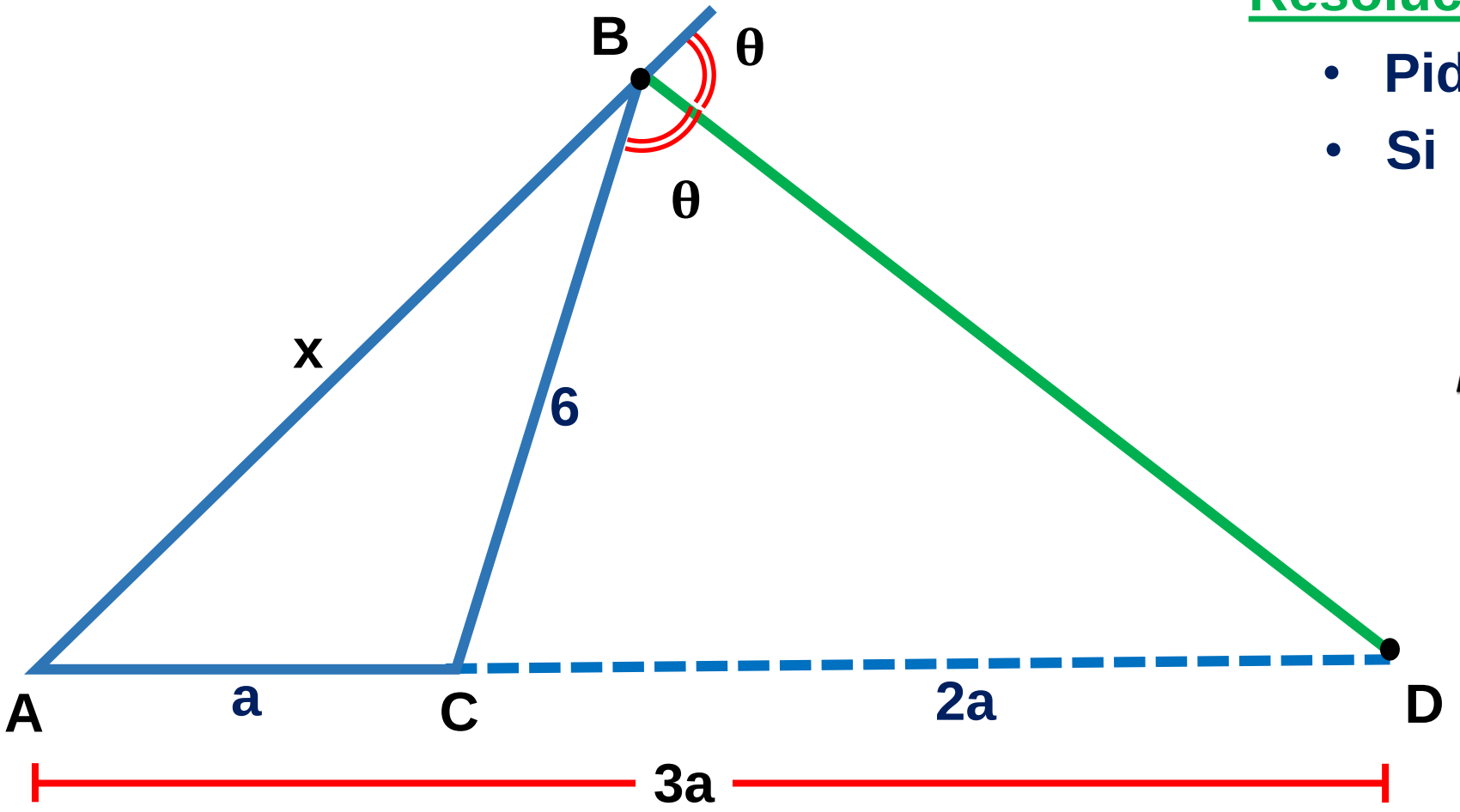
$6^2 = 4(x + 4)$

$36 = 4(x + 4)$

$9 = x + 4$

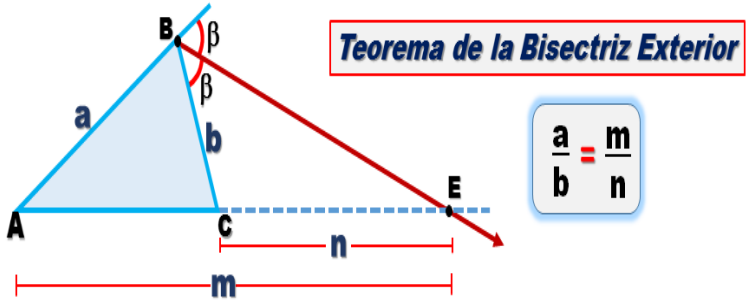
x = 5

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: x
- Si $\overline{BE}$: bisectriz exterior

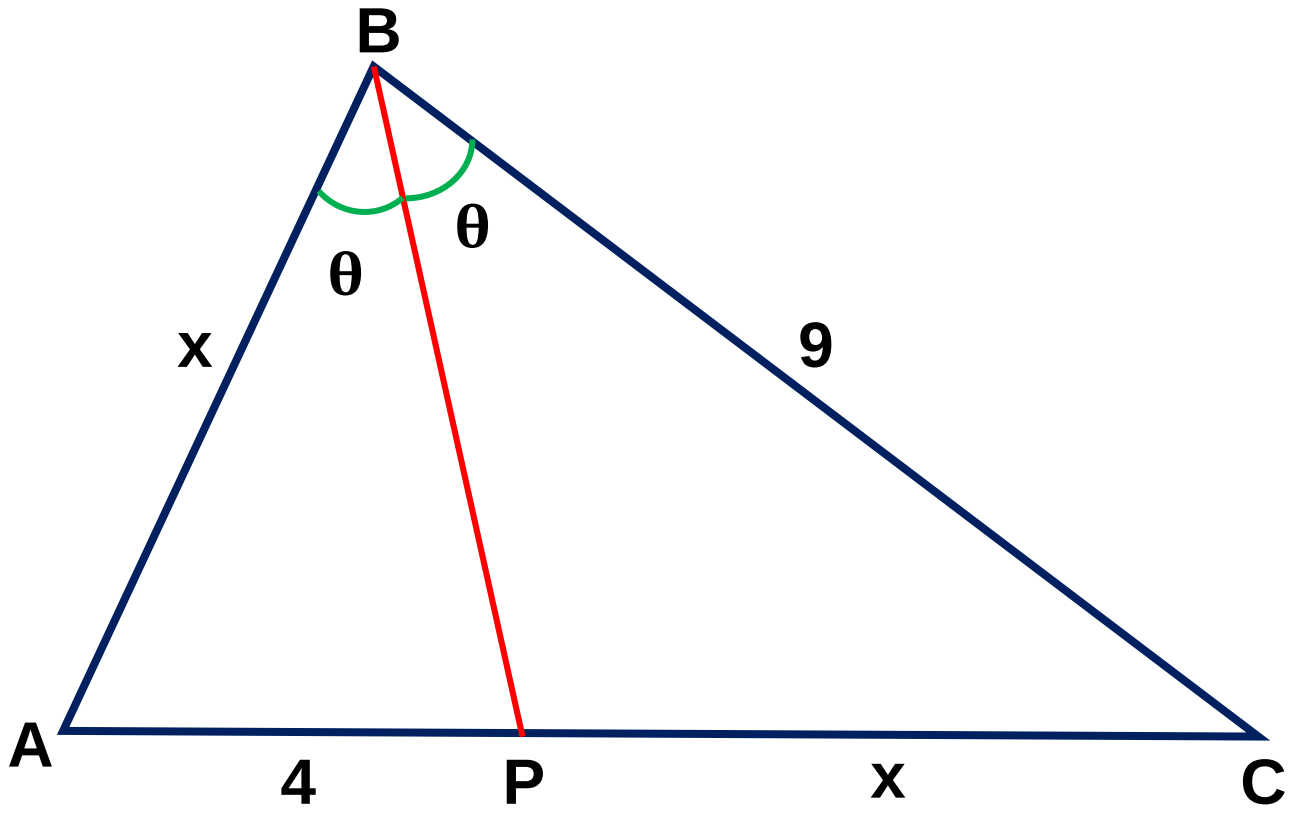


$$\frac{x}{6} = \frac{3a}{2a}$$

$$2x = 18$$

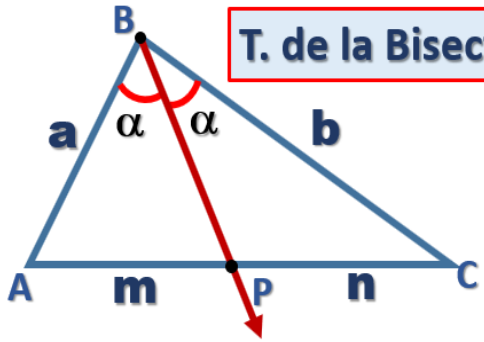
$$x = 9$$

9. Halle el valor de x.



Resolución

- Piden : x
- Si $\overline{BP}$: bisectriz interior



T. de la Bisectriz Interior

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

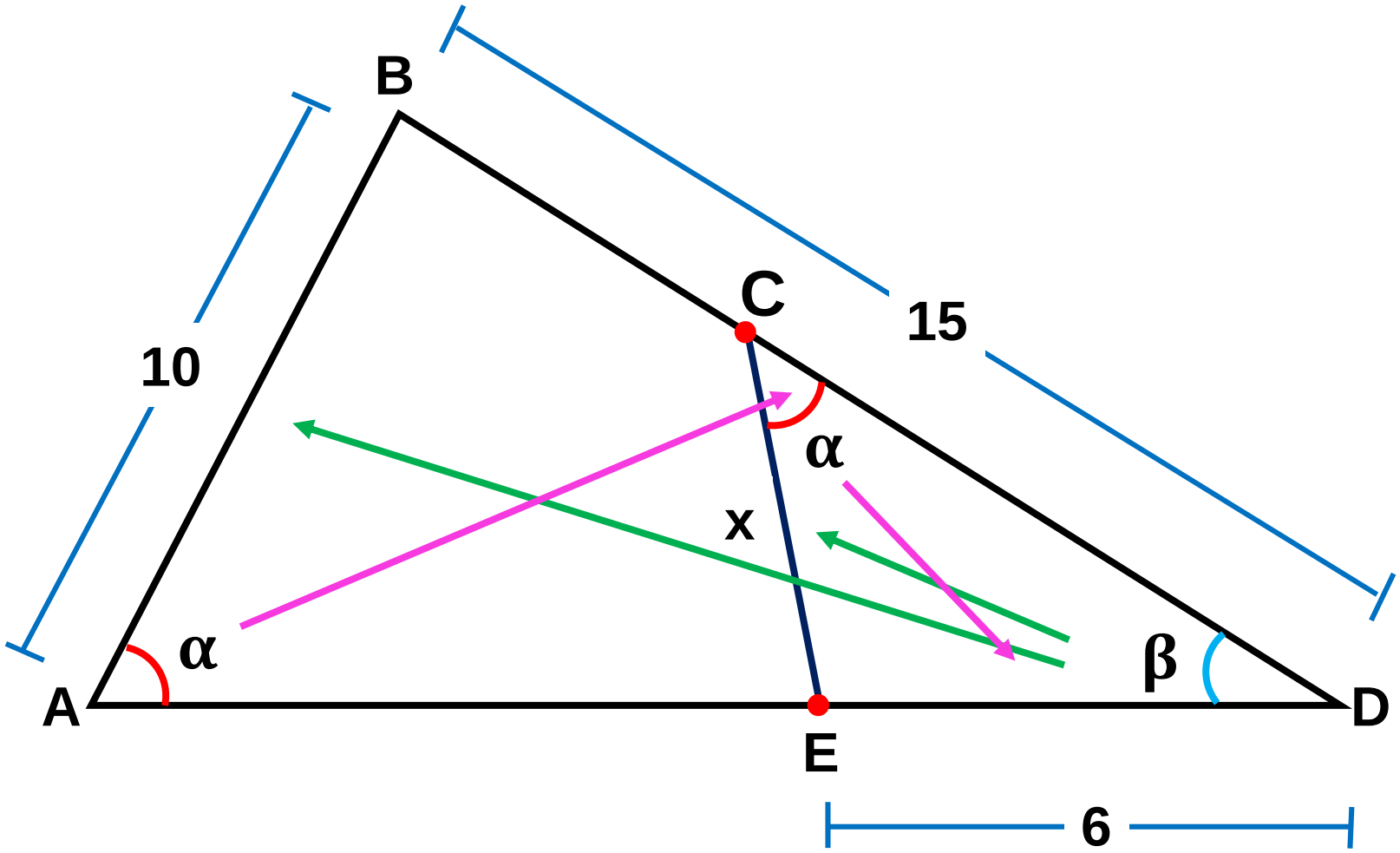
$$\frac{x}{4} = \frac{9}{x}$$

$$x.x = (4)(9)$$

$$x^2 = 36$$

$$\boxed{x = 6}$$

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: x
- Δ CED ~ Δ ABD

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

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

15x = 60

x = 4