



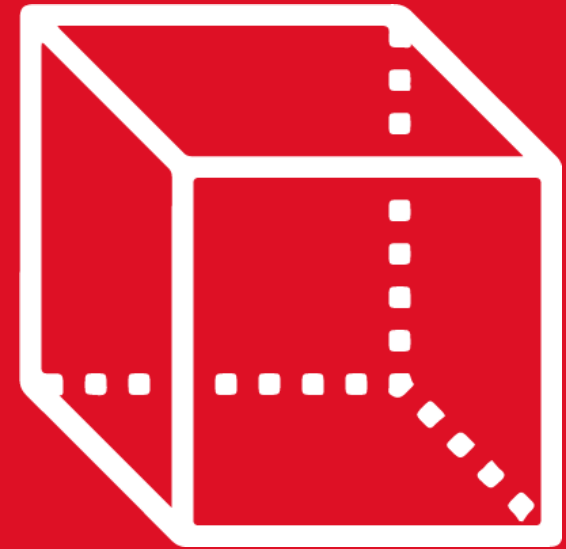
GEOMETRÍA

TOMO 6

2nd

SECONDARY

RETROALIMENTACIÓN



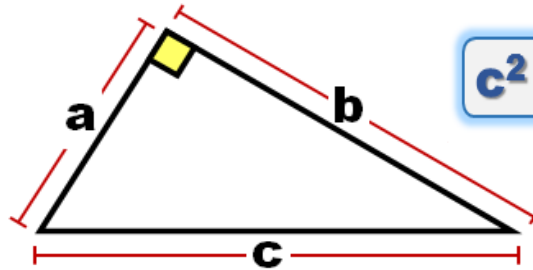
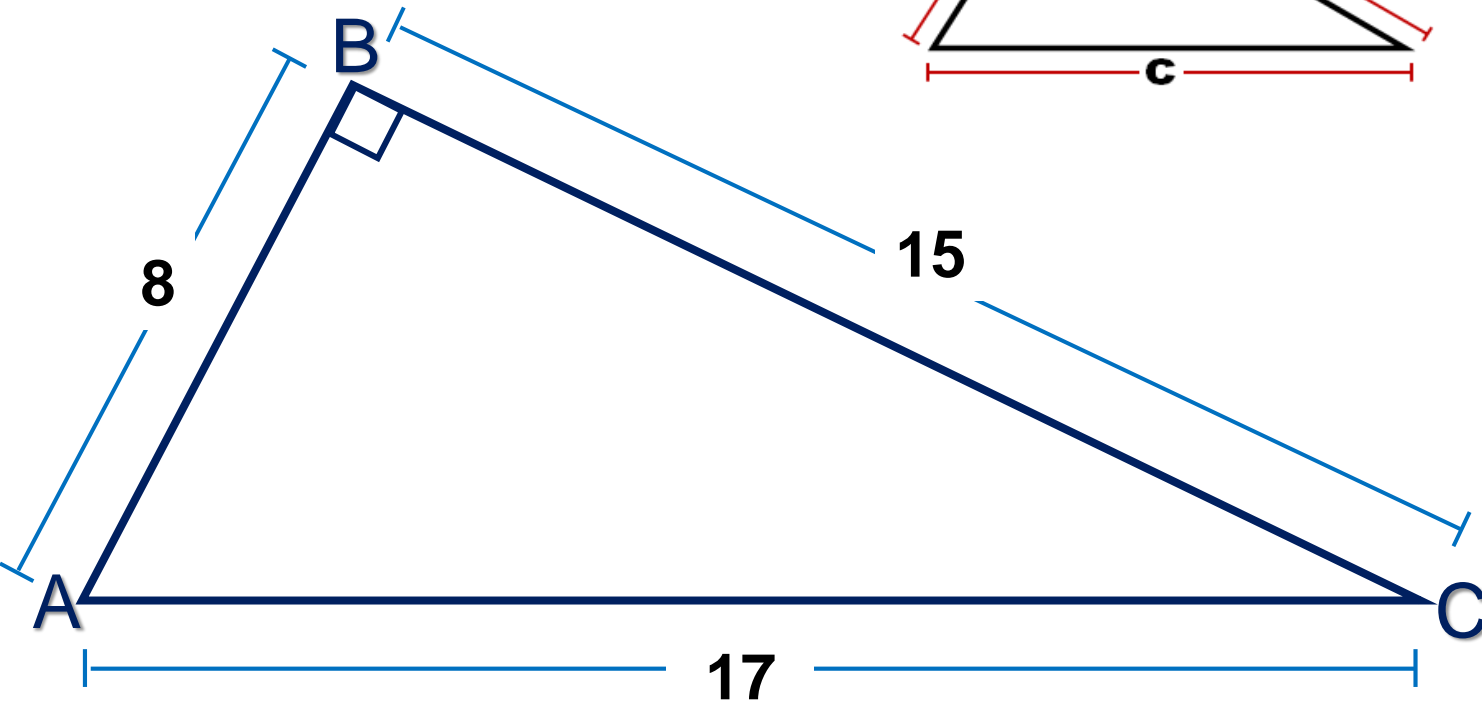
 **SACO OLIVEROS**

1. En un triángulo ABC recto en B, si $AB = 8\text{m}$ y $BC = 15\text{m}$, halle el perímetro del triángulo.

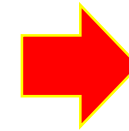
Teorema de Pitágoras

RESOLUCIÓN

Piden: $2 p_{ABC}$



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



$$AC^2 = 8^2 + 15^2$$

$$AC^2 = 64 + 225$$

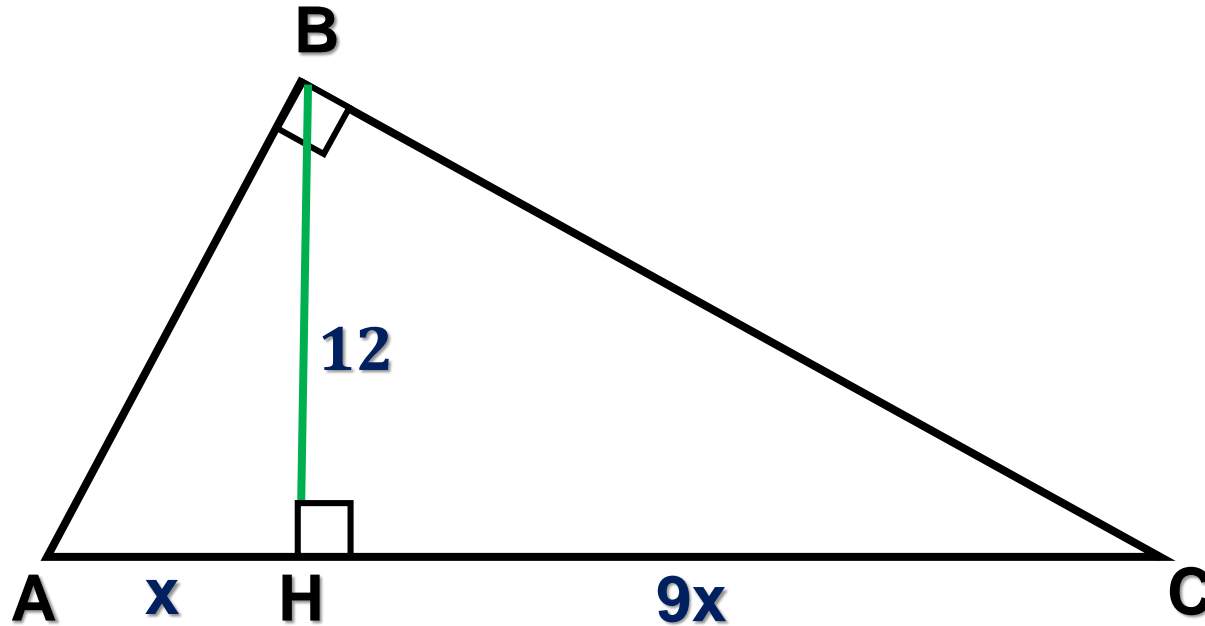
$$AC^2 = 289$$

$$AC = 17$$

$$2p_{ABC} = 8 + 15 + 17$$

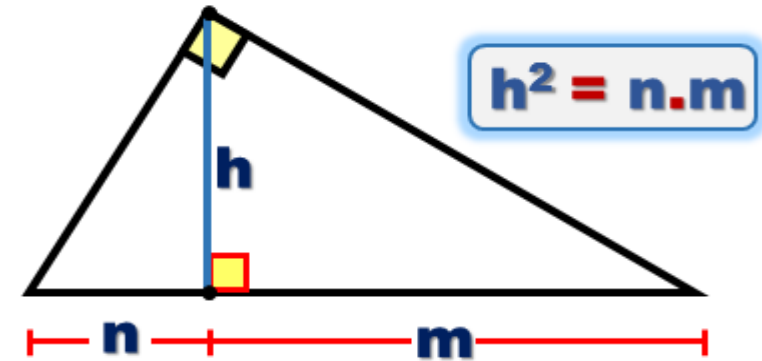
$$2p_{ABC} = 40 \text{ m}$$

2. En el gráfico, halle el valor de x .



RESOLUCIÓN

Piden: x



$$12^2 = (x)(9x)$$

$$144 = 9x^2$$

$$16 = x^2$$

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

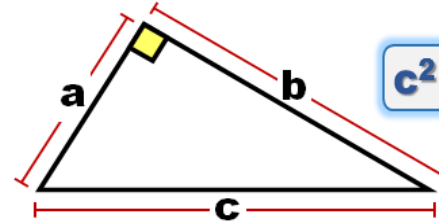


3. En el gráfico, halle el valor de x .

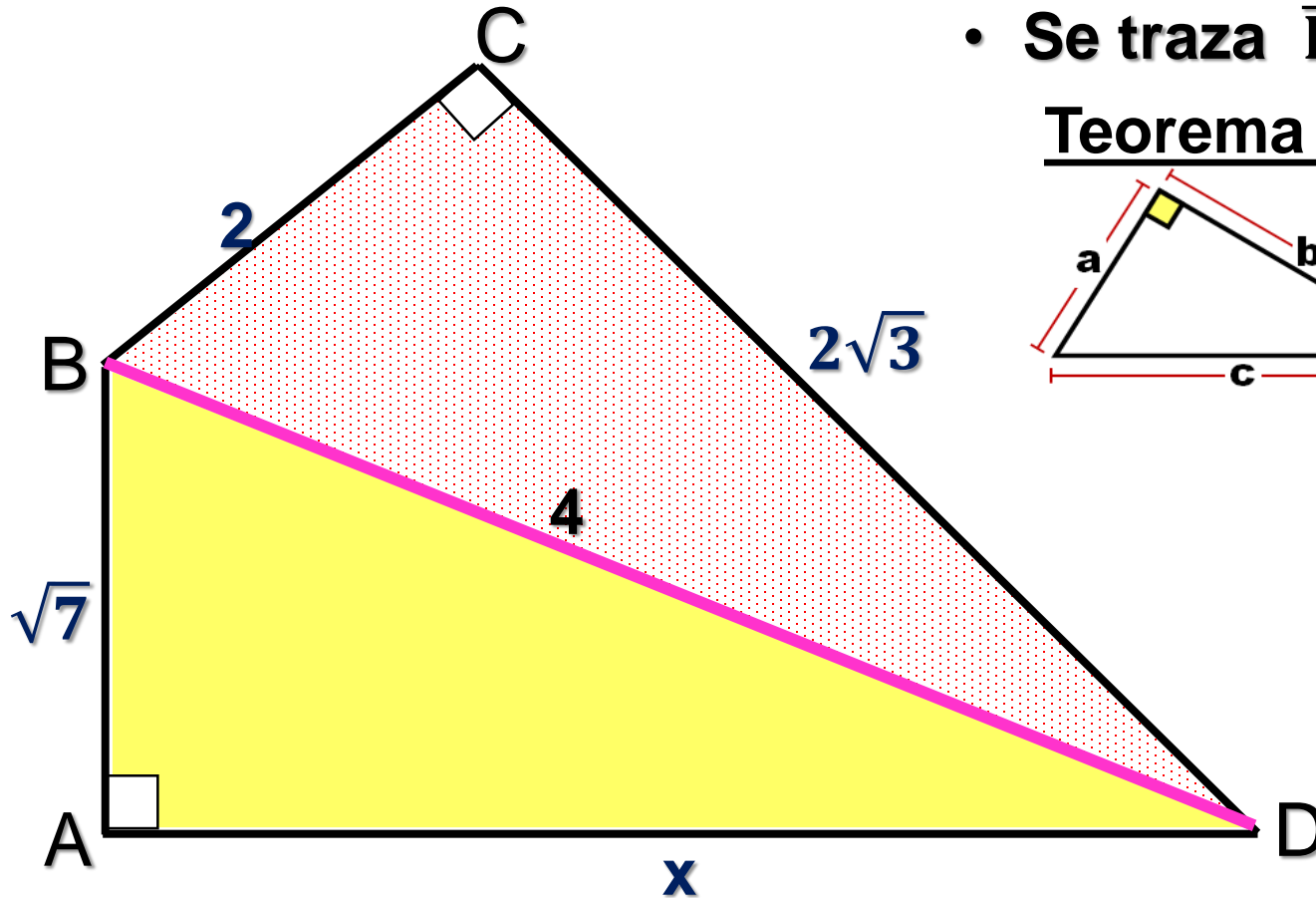
RESOLUCIÓN

- Piden: x
- Se traza \overline{BD}

Teorema de Pitágoras



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



- En el $\triangle BCD$:

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

$$BD^2 = 4 + 12$$

$$BD = 4$$

- En el $\triangle ABD$:

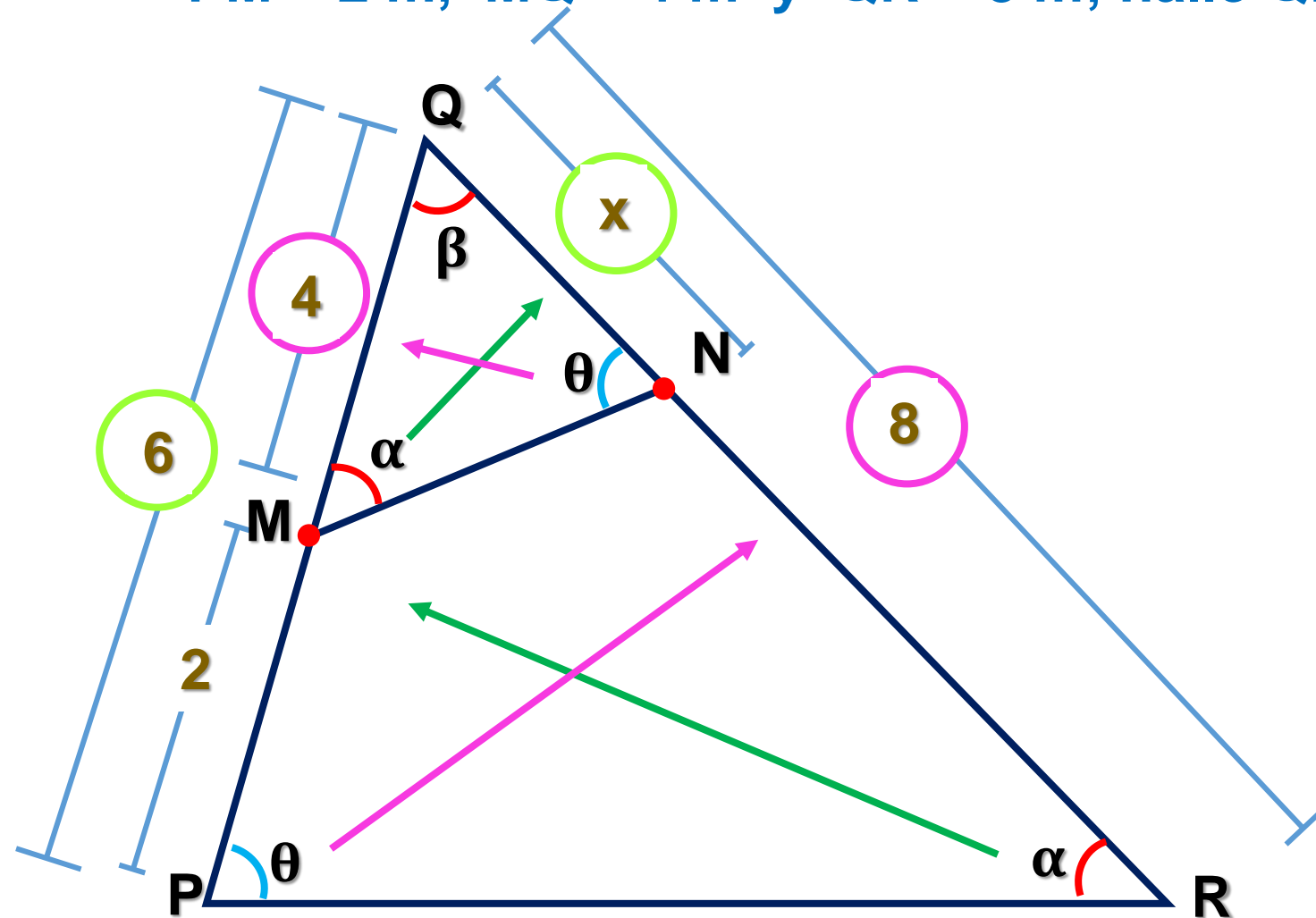
$$4^2 = x^2 + (\sqrt{7})^2$$

$$16 = x^2 + 7$$

$$9 = x^2$$

$$x = 3 \text{ u}$$

4. Se tiene un triángulo PQR, donde $M \in \overline{PQ}$, $N \in \overline{QR}$ y $m\angle QMN = m\angle PRQ$. Si $PM = 2 \text{ m}$, $MQ = 4 \text{ m}$ y $QR = 8 \text{ m}$; halle QN.



RESOLUCIÓN

- Piden: x

$$\triangle MQN \sim \triangle RQP$$

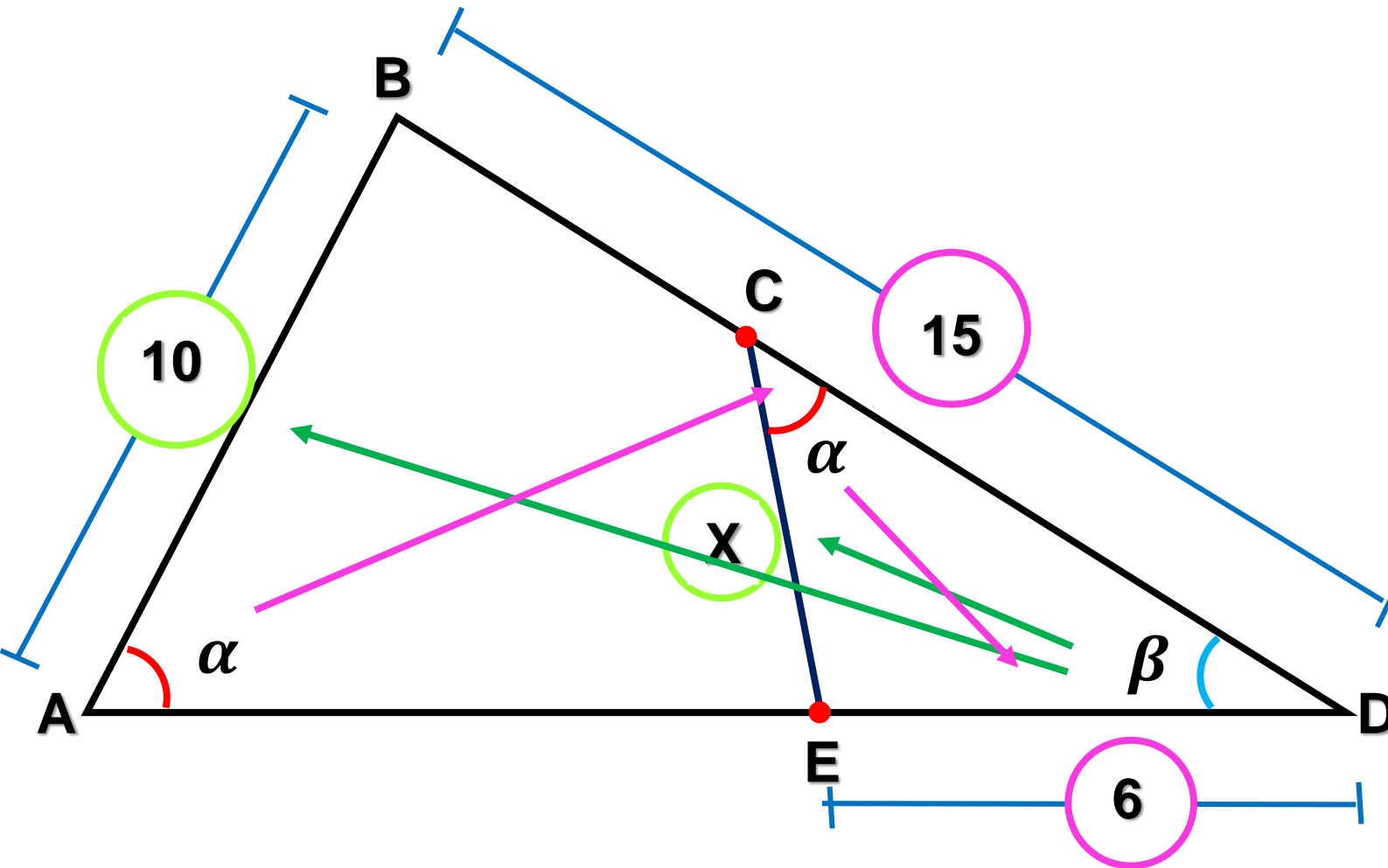
$$\frac{x}{6} = \frac{4}{8}$$

$$(8) \cdot (x) = (6) \cdot (4)$$

$$8x = 24$$

$$x = 3 \text{ u}$$

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



RESOLUCIÓN

- Piden: x

$$\triangle CED \sim \triangle ABD$$

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

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

$$15x = 60$$

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

A geometric diagram showing a triangle \$ABC\$ with vertices \$A\$, \$B\$, and \$C\$. The interior angle at vertex \$A\$ is \$\alpha\$, and the exterior angle at vertex \$A\$ is \$\theta\$. The interior angle at vertex \$C\$ is \$\theta\$, and the exterior angle at vertex \$C\$ is \$\alpha\$. A point \$D\$ lies on side \$BC\$. A line segment \$AD\$ is drawn. A point \$x\$ is located inside the triangle, and a point \$9\$ is located outside the triangle near vertex \$C\$. A pink circle contains the label \$1\$ near vertex \$B\$. A blue line segment connects the two circles. A green arrow points from the pink circle towards the interior of the triangle. A magenta arrow points from the blue circle towards the interior of the triangle. A red arrow points from the pink circle towards the interior of the triangle. A black arrow points from the blue circle towards the interior of the triangle.

- **Piden: x**

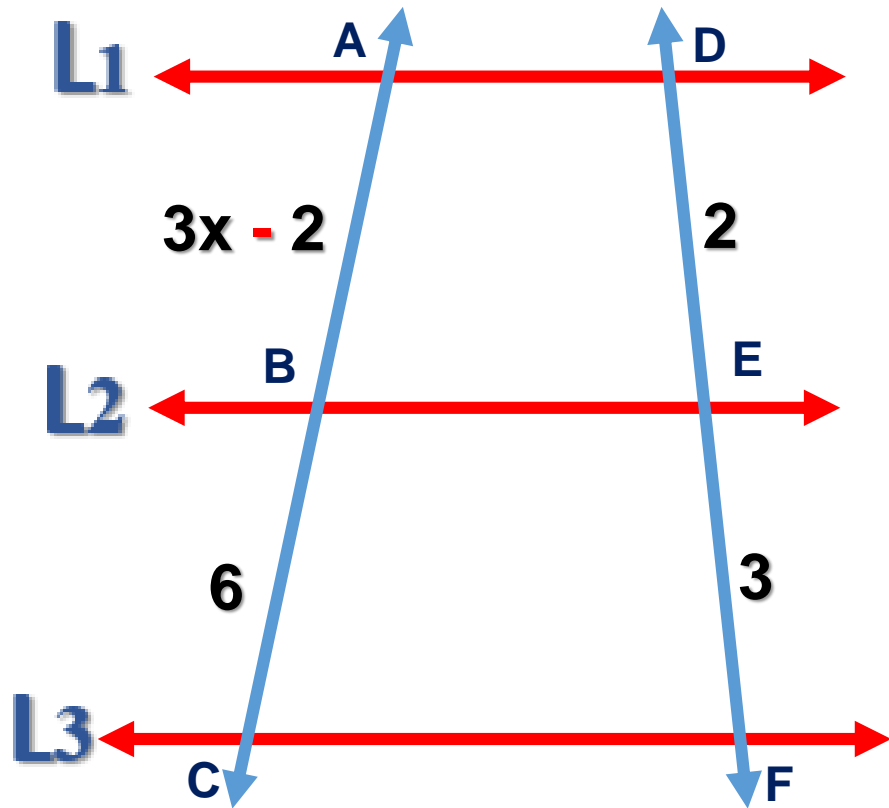
$$\frac{x}{9} = \frac{1}{x}$$

$$x^2 = 9$$

x = 3 u



7. Si $\vec{L}_1 \parallel \vec{L}_2 \parallel \vec{L}_3$, $AB = 3x - 2$, $BC = 6$, $DE = 2$, $EF = 3$. Halle el valor de x .



RESOLUCIÓN

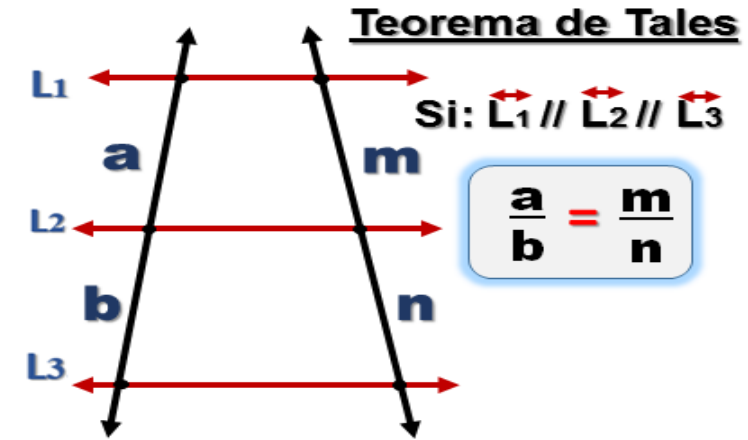
Piden: x

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

$$9x - 6 = 12$$

$$9x = 18$$

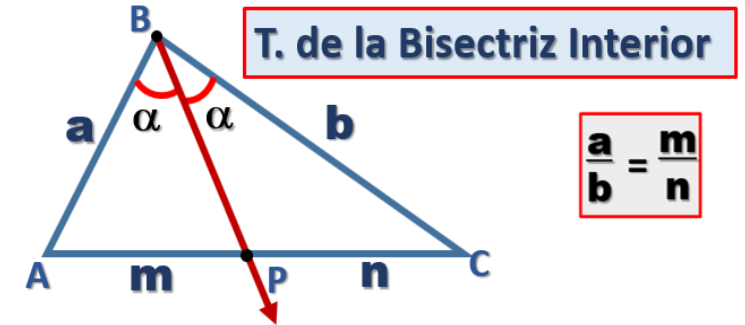
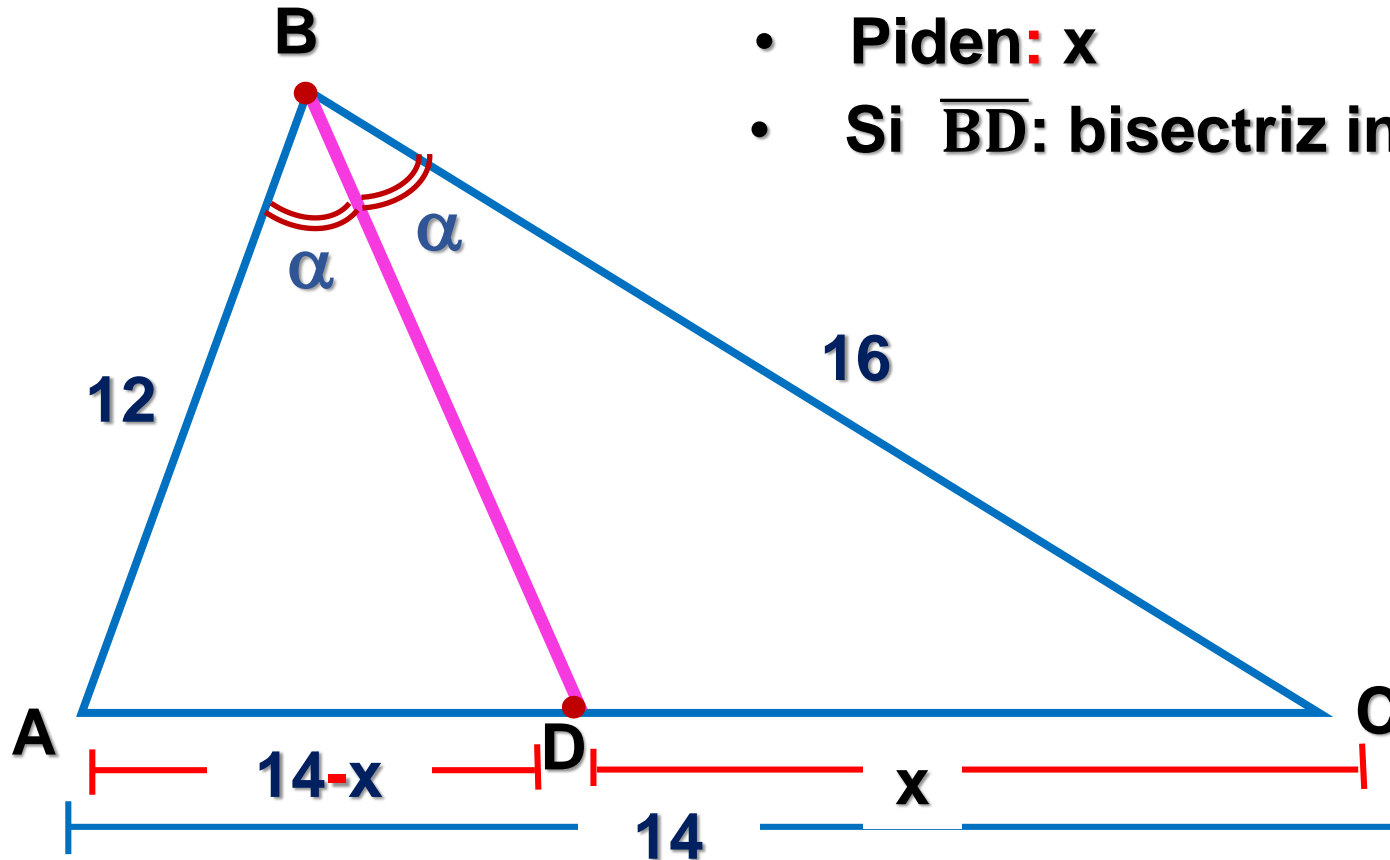
$$x = 2$$



8. En un triángulo ABC, se traza la bisectriz interior \overline{BD} . Si $AB = 12\text{m}$, $BC = 16$, $AC = 14$; halle el valor de DC.

RESOLUCIÓN

- Piden: x
- Si \overline{BD} : bisectriz interior



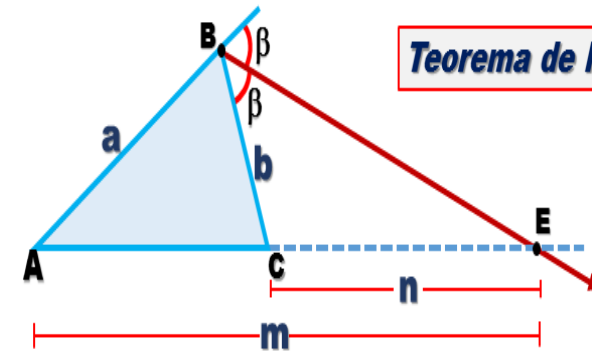
$$\begin{aligned} \frac{12}{16} &= \frac{14 - x}{x} \\ 3x &= 56 - 4x \\ 7x &= 56 \end{aligned}$$

$$x = 8 \text{ u}$$

9. En el triángulo ABC se traza la bisectriz exterior \overline{BE} , donde $E \in$ a la prolongación de \overline{AC} . Si $AB = 6m$ y $CE = AC$, halle BC.

RESOLUCIÓN

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



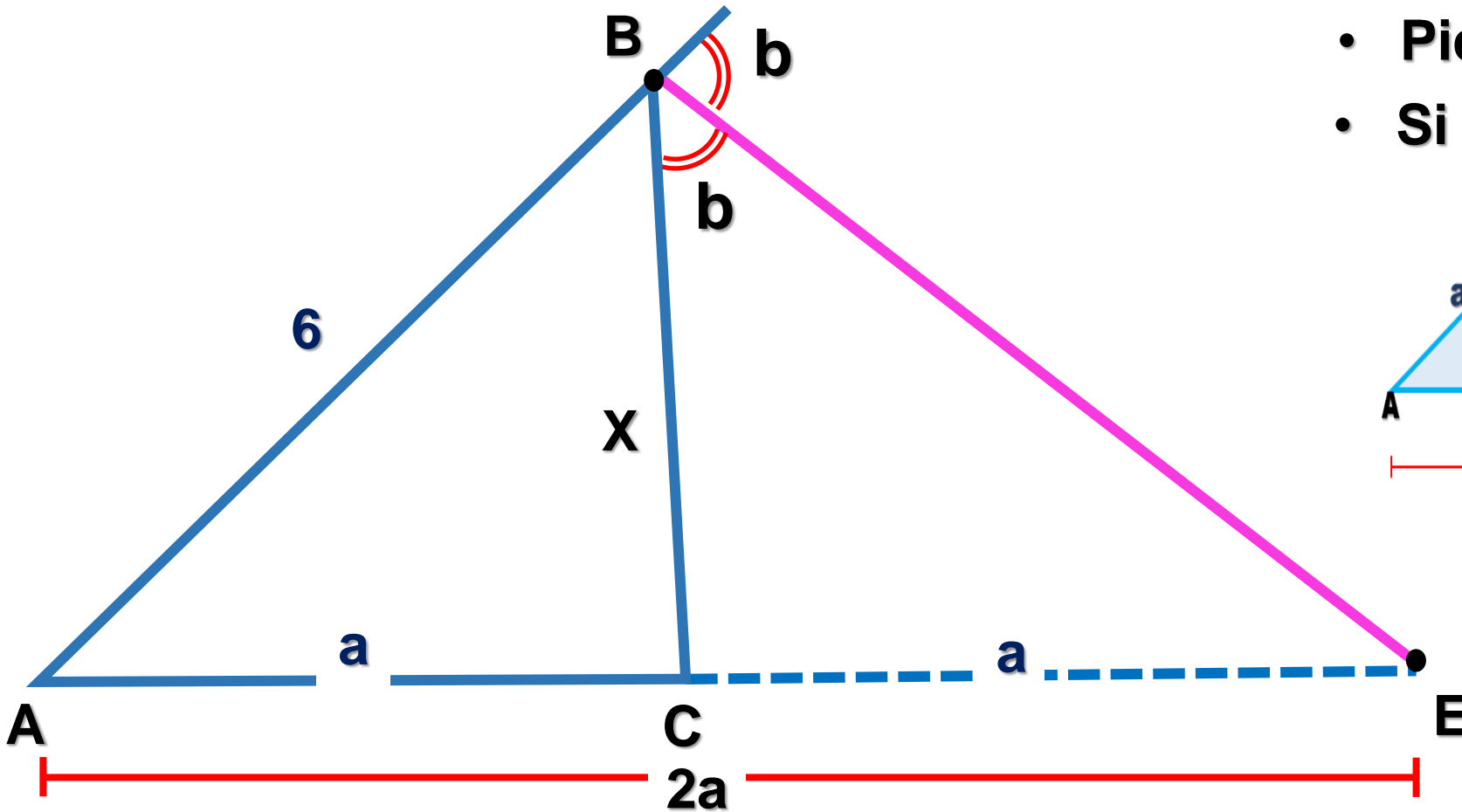
Teorema de la Bisectriz Exterior

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

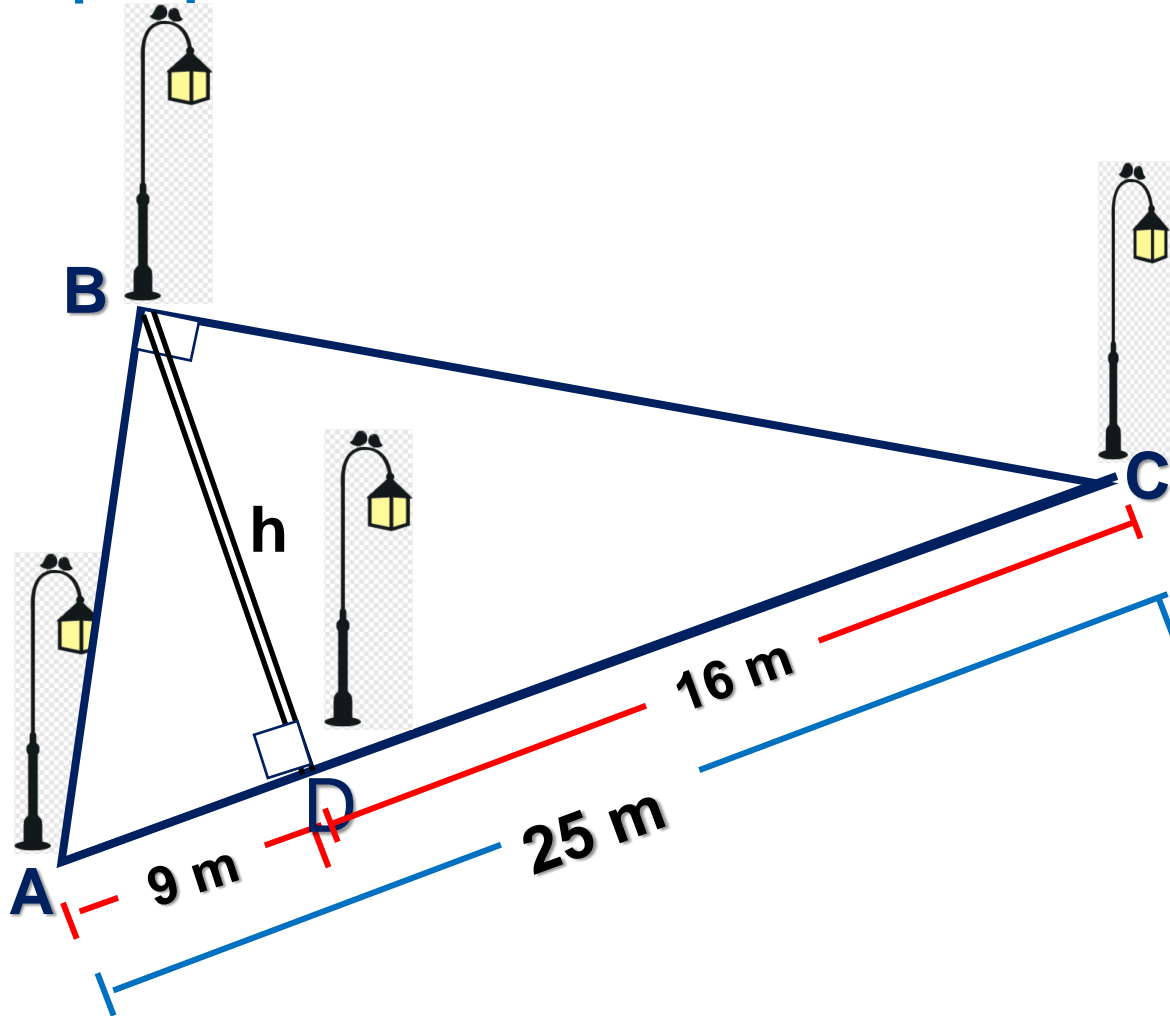
$$\frac{6}{x} = \frac{2a}{a}$$

$$2x = 6$$

$$x = 3u$$



10. Se colocan cuatro postes de alumbrado público en el jardín del profesor Eduardo, como se muestra en la figura. Determine la longitud de la vereda BD que cruza el parque.



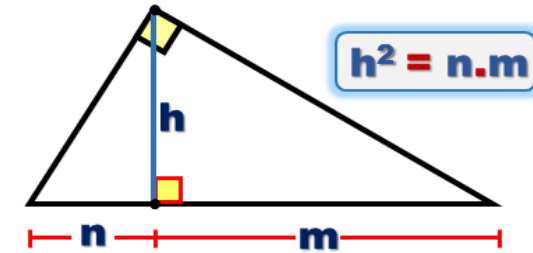
RESOLUCIÓN

- Piden: h
- Del gráfico

$$AC = AD + DC$$

$$25 = 9 + DC$$

$$DC = 16m$$



$$h^2 = (9).(16)$$

$$h^2 = 144$$

$$x = 12 m$$