



# GEOMETRÍA

## Capítulo 6

### Sesión 1

**3th**  
SECONDARY

LÍNEAS NOTABLES  
ASOCIADAS AL  
TRIÁNGULO

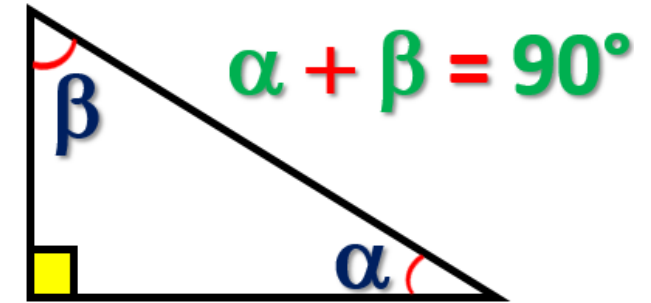
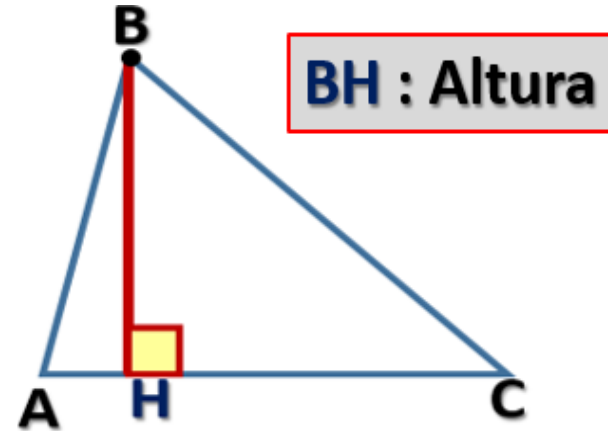
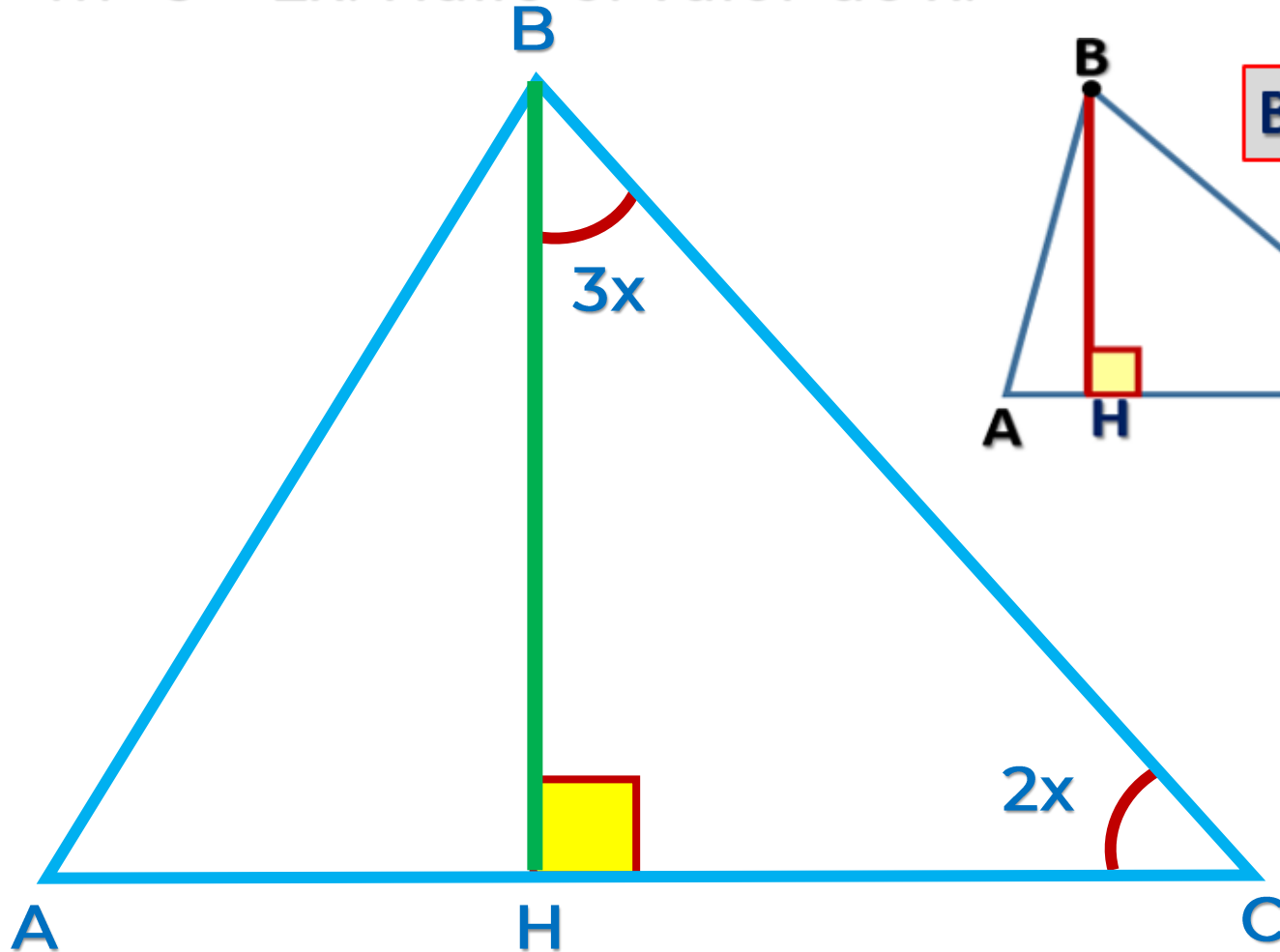


 **SACO OLIVEROS**

## PROBLEMA 1



Se tiene un triángulo ABC, donde se traza la altura BH y la  $m\angle HBC = 3x$ ,  $m\angle C = 2x$ . Halle el valor de x.



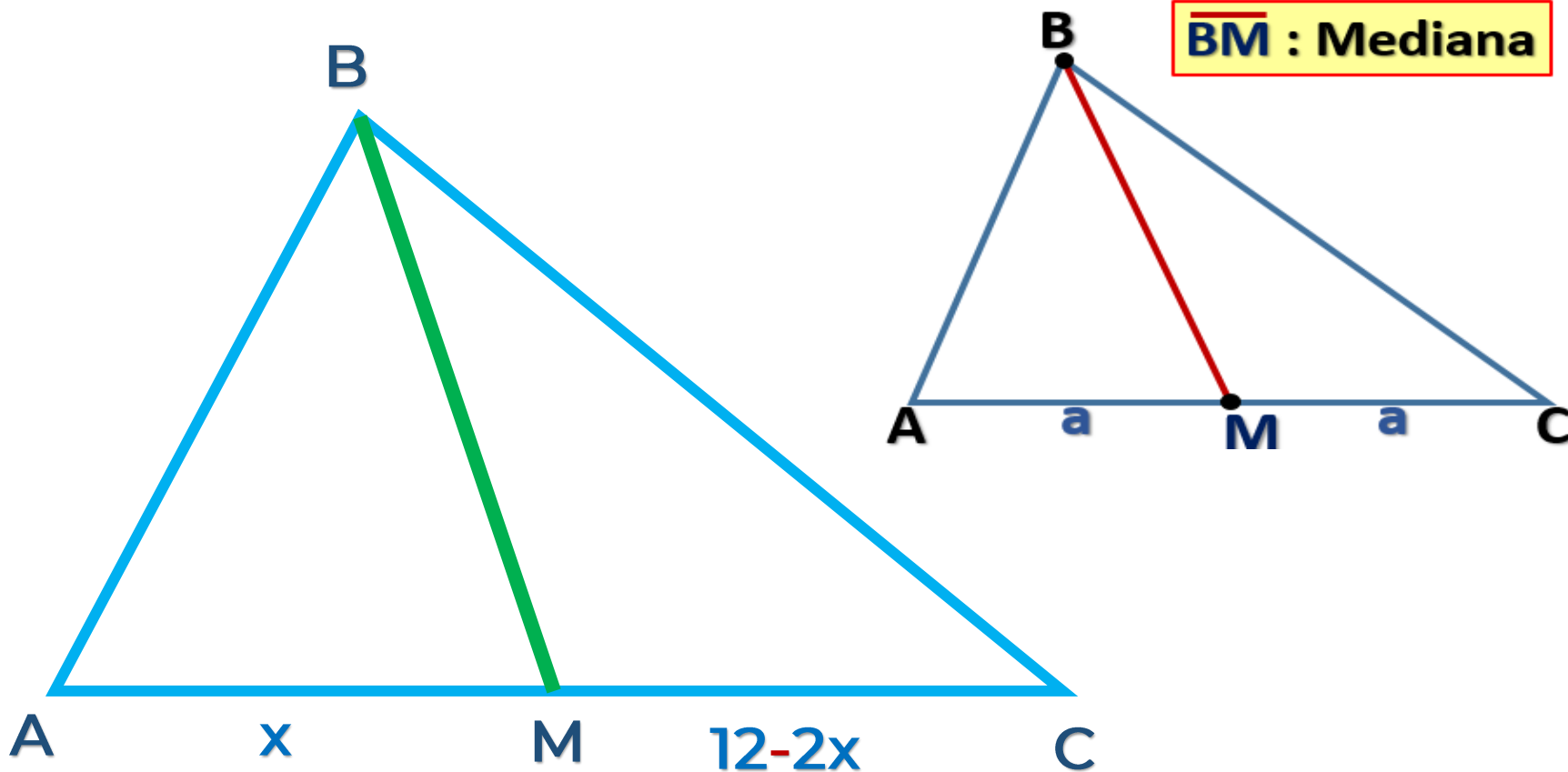
$$3x + 2x = 90^\circ$$

$$5x = 90^\circ$$

$$x = 18^\circ$$

## PROBLEMA 2

Se tiene un triángulo ABC, luego se traza la mediana  $\overline{BM}$ , donde  $AM = x$ ,  $MC = 12 - 2x$ . Halle el valor de  $x$ .

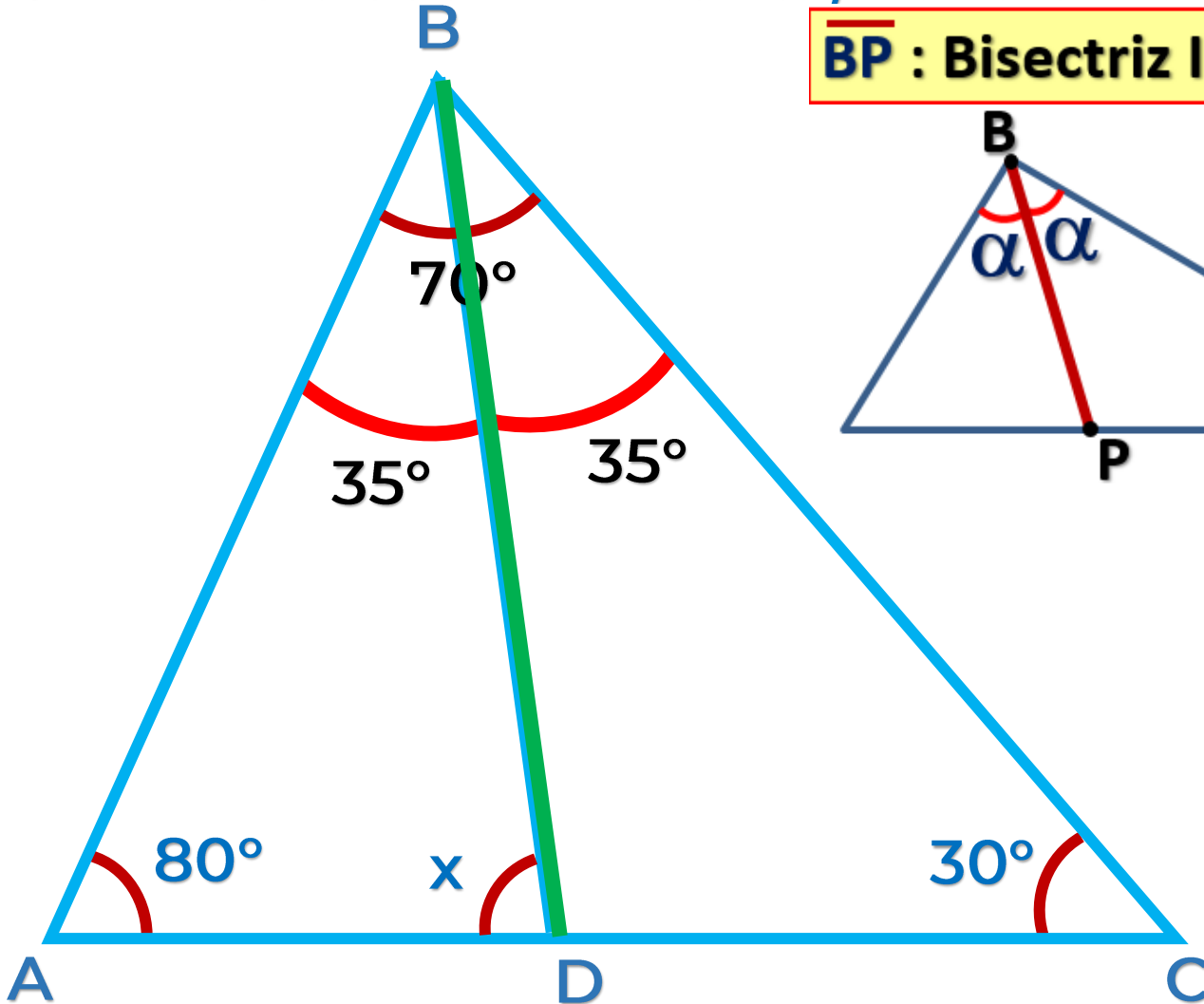


$$\begin{aligned} AM &= MC \\ x &= 12 - 2x \\ 3x &= 12 \end{aligned}$$

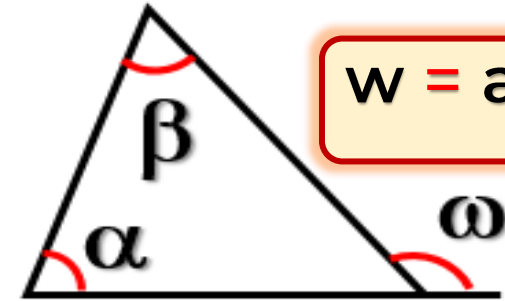
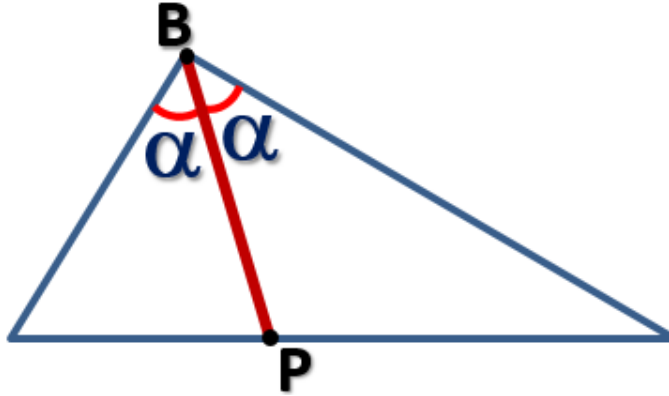
$$x = 4$$

**PROBLEMA 3**

Si BD es bisectriz interior, halle el valor de x.



**$\overline{BP}$  : Bisectriz Interior**



$$w = a + b$$

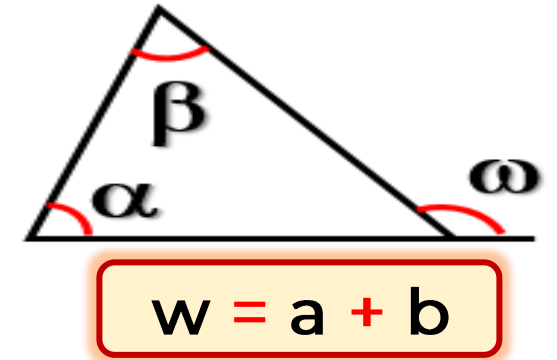
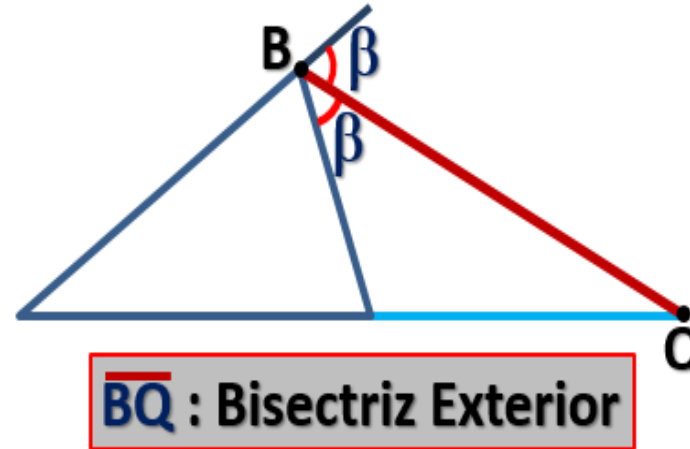
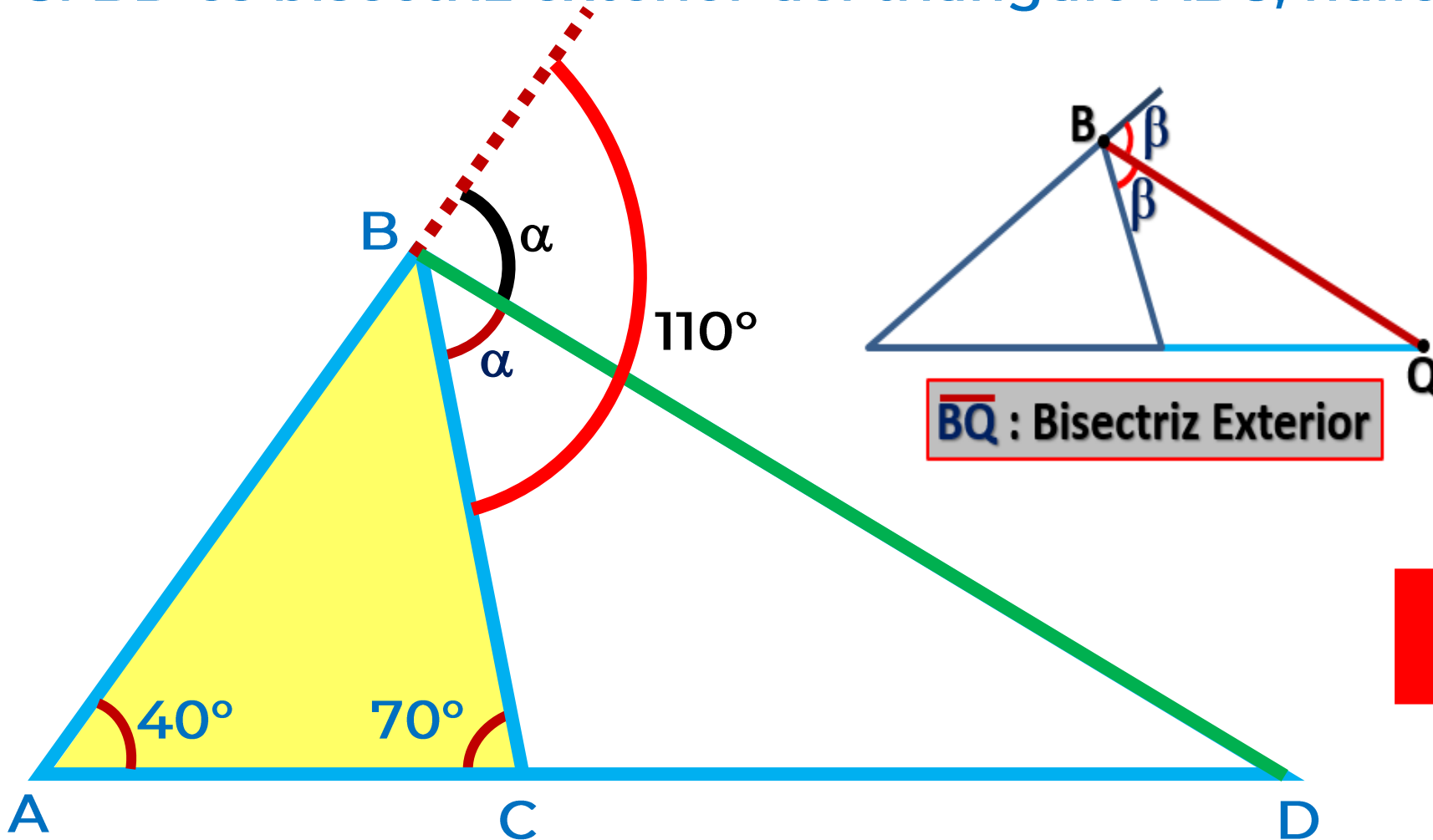
•  $\Delta BDC$ :

$$x = 35^\circ + 30^\circ$$

$$x = 65^\circ$$

## PROBLEMA 4

Si  $\overline{BD}$  es bisectriz exterior del triángulo ABC, halle el valor de  $\alpha$ .

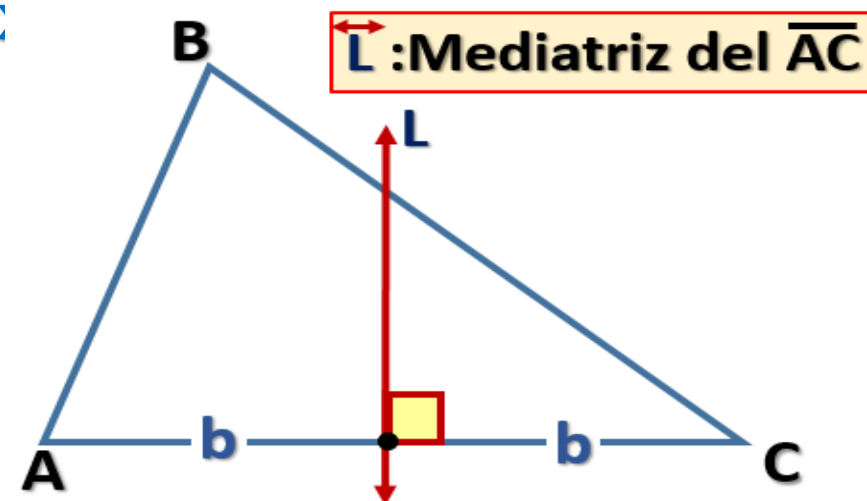
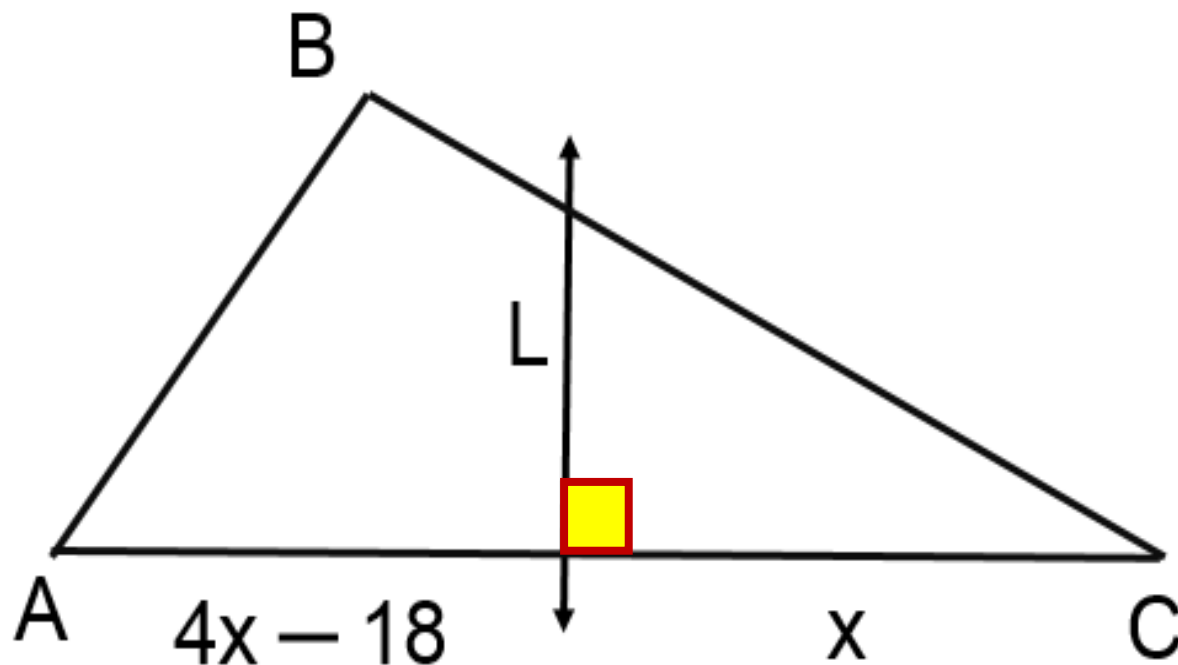


$$2\alpha = 110^\circ$$

$$\alpha = 55^\circ$$

## PROBLEMA 5

Si  $\overleftrightarrow{L}$  es mediatriz del  $\overline{AC}$ , halle el valor de  $x$ :



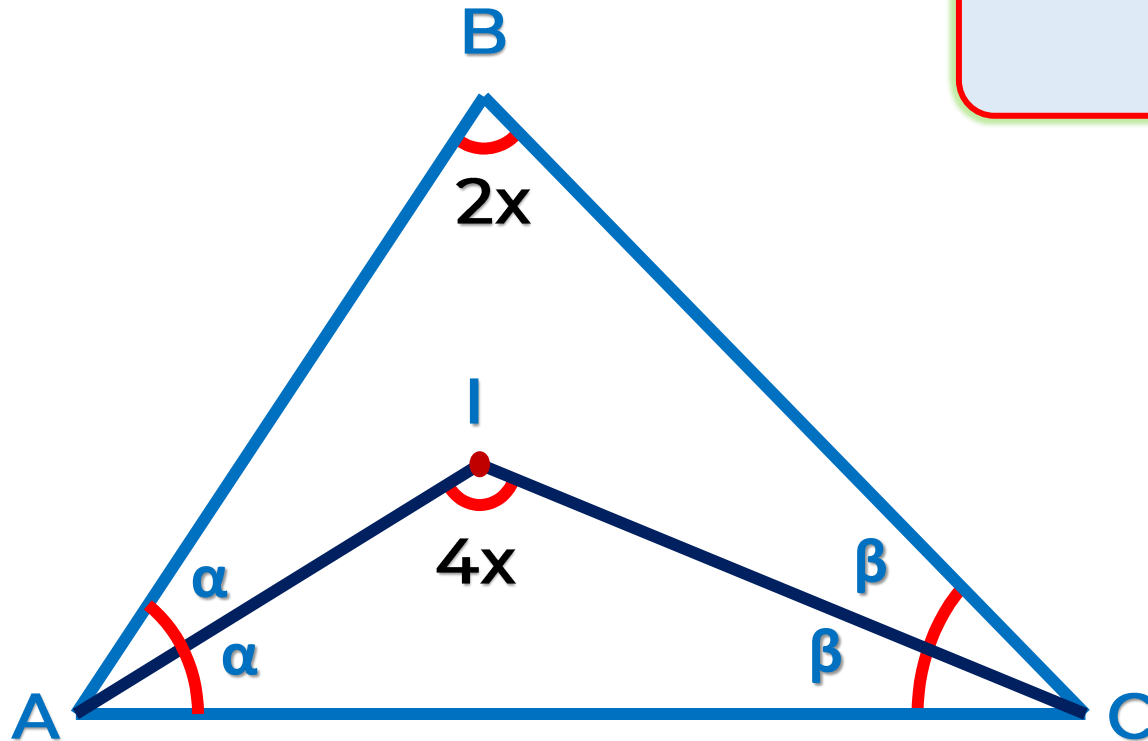
$$\begin{aligned} 4x - 18 &= x \\ 3x &= 18 \end{aligned}$$

$$x = 6$$

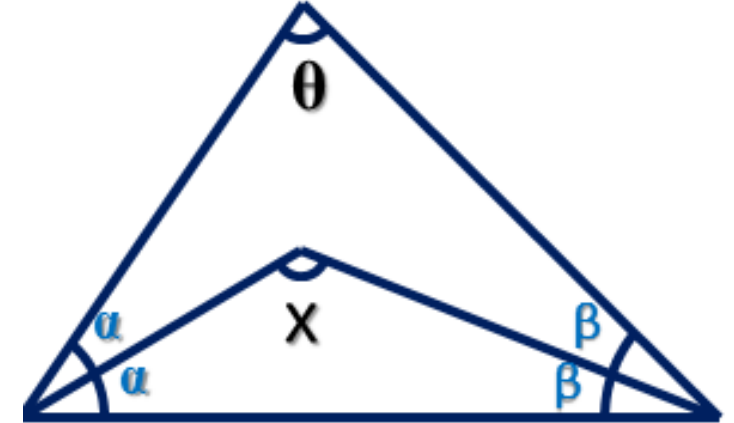


## PROBLEMA 6

En la figura, halle el valor de  $x$ .



$$x = 90^\circ + \frac{\theta}{2}$$



$$4x = 90^\circ + \frac{2x}{2}$$

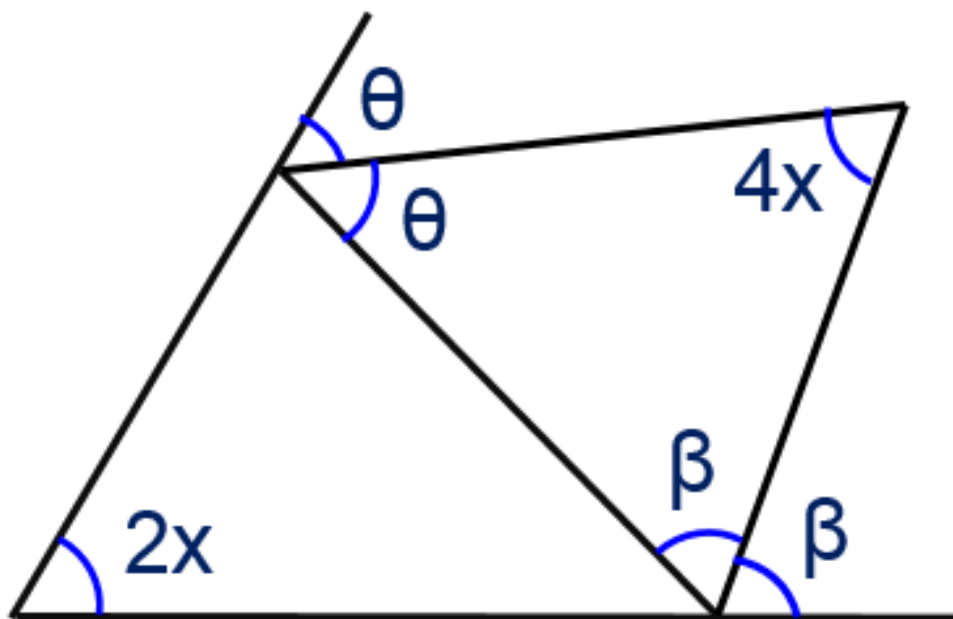
$$4x = 90^\circ + x$$

$$3x = 90^\circ$$

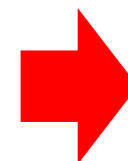
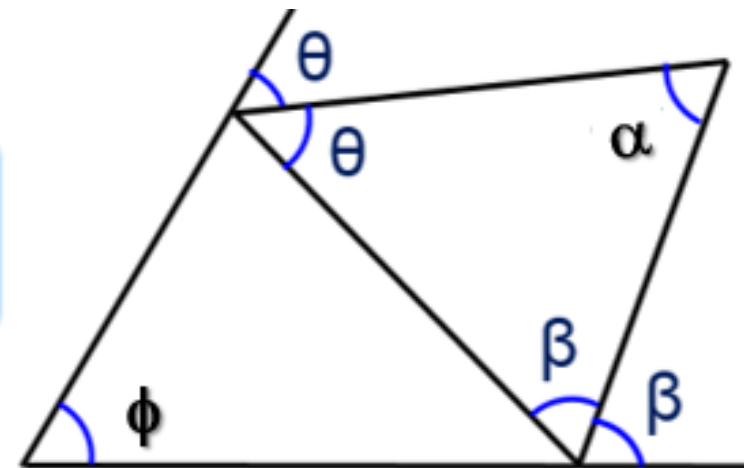
$$x = 30^\circ$$

## PROBLEMA 7

En la figura, halle el valor de  $x$ .



$$a = 90^\circ - \frac{\phi}{2}$$



$$4x = 90^\circ - \frac{2x}{2}$$

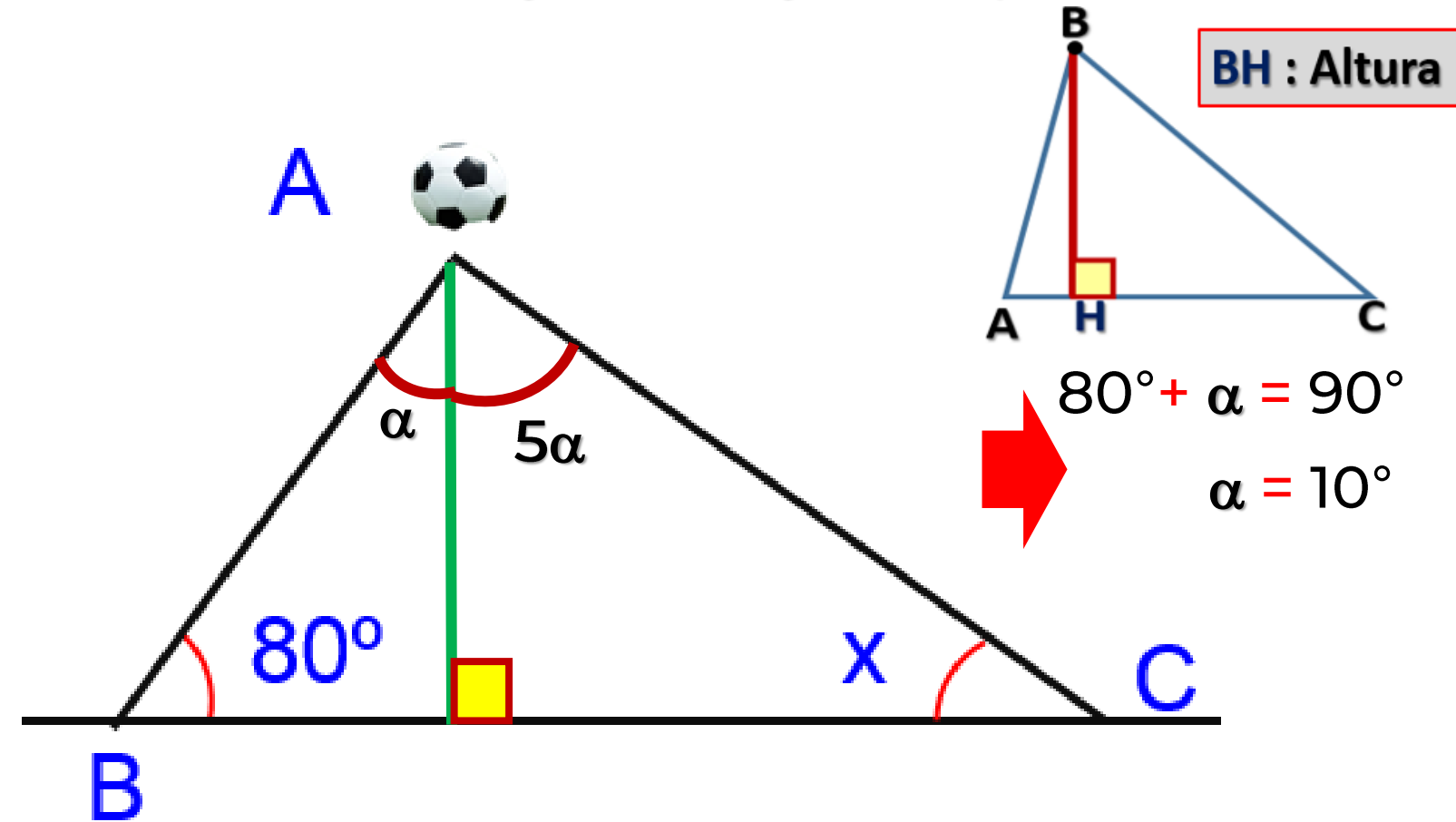
$$5x = 90^\circ$$

$$x = 18^\circ$$



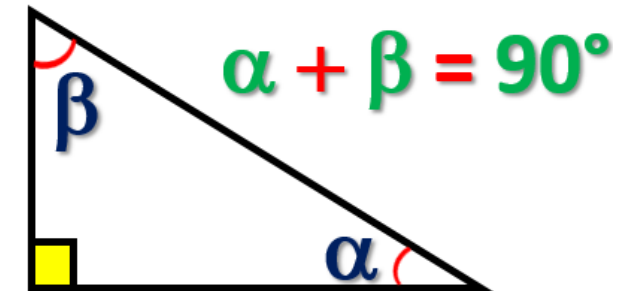
## PROBLEMA 8

En la figura, se observa caer una pelota tal que su trayectoria forma con AC y AB,  $5\alpha$  y  $\alpha$ , respectivamente. Halle el valor de  $x$ .



$$80^\circ + \alpha = 90^\circ$$

$$\alpha = 10^\circ$$



$$x + 5\alpha = 90^\circ$$

$$x + 50^\circ = 90^\circ$$

$$x = 40^\circ$$