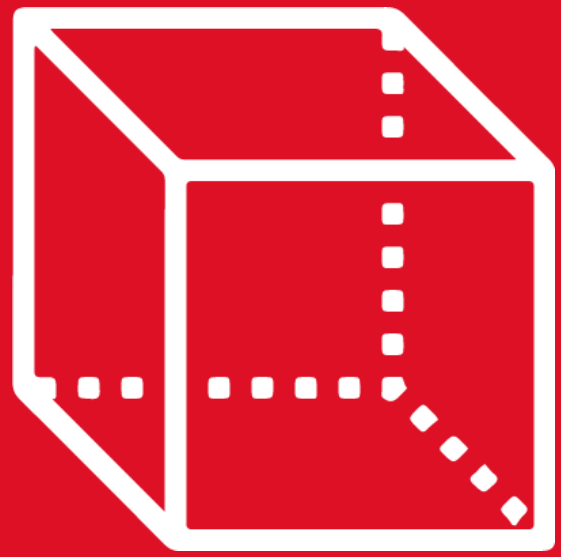
GEOMETRÍA

TOMO 2



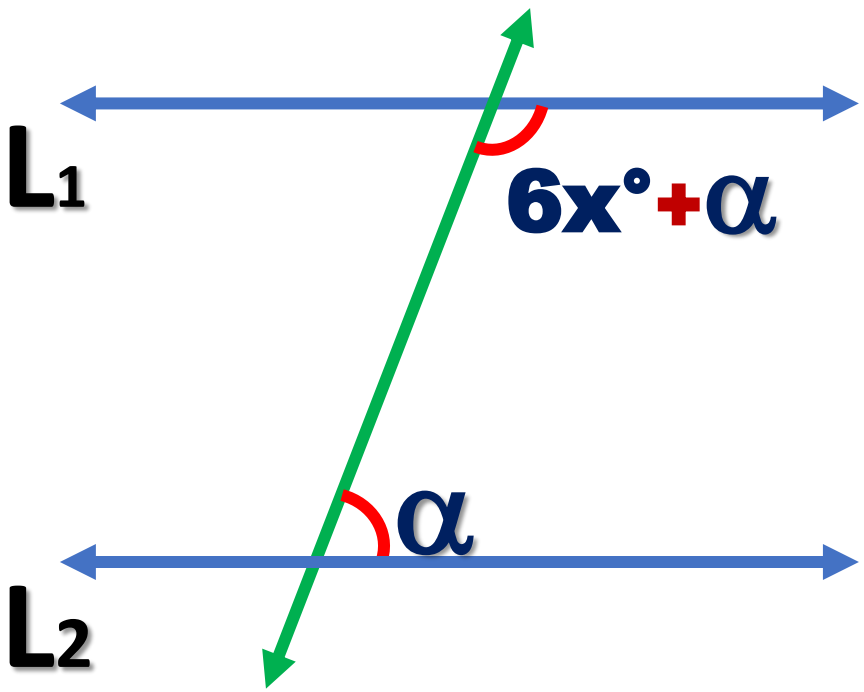
3th
SECONDARY

RETROALIMENTACIÓN
SESION II

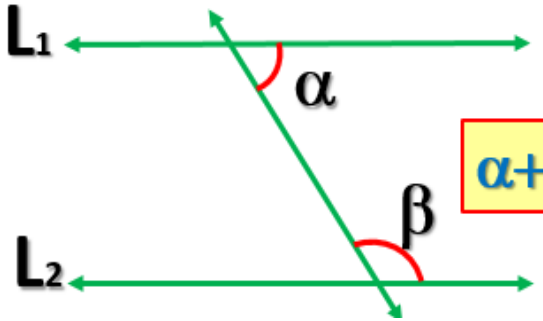
SACO OLIVEROS

1. Si $\overleftrightarrow{L1} \parallel \overleftrightarrow{L2}$, halle el menor valor de x, además $\alpha < 30°$

Resolución



Ángulos conjugados



$\alpha+\beta=180°$

$6x + \alpha + \alpha = 180°$

$6x + 2\alpha = 180°$

$3x + \alpha = 90°$

$\alpha = 90° - 3x$

Por dato:

$\alpha < 30°$

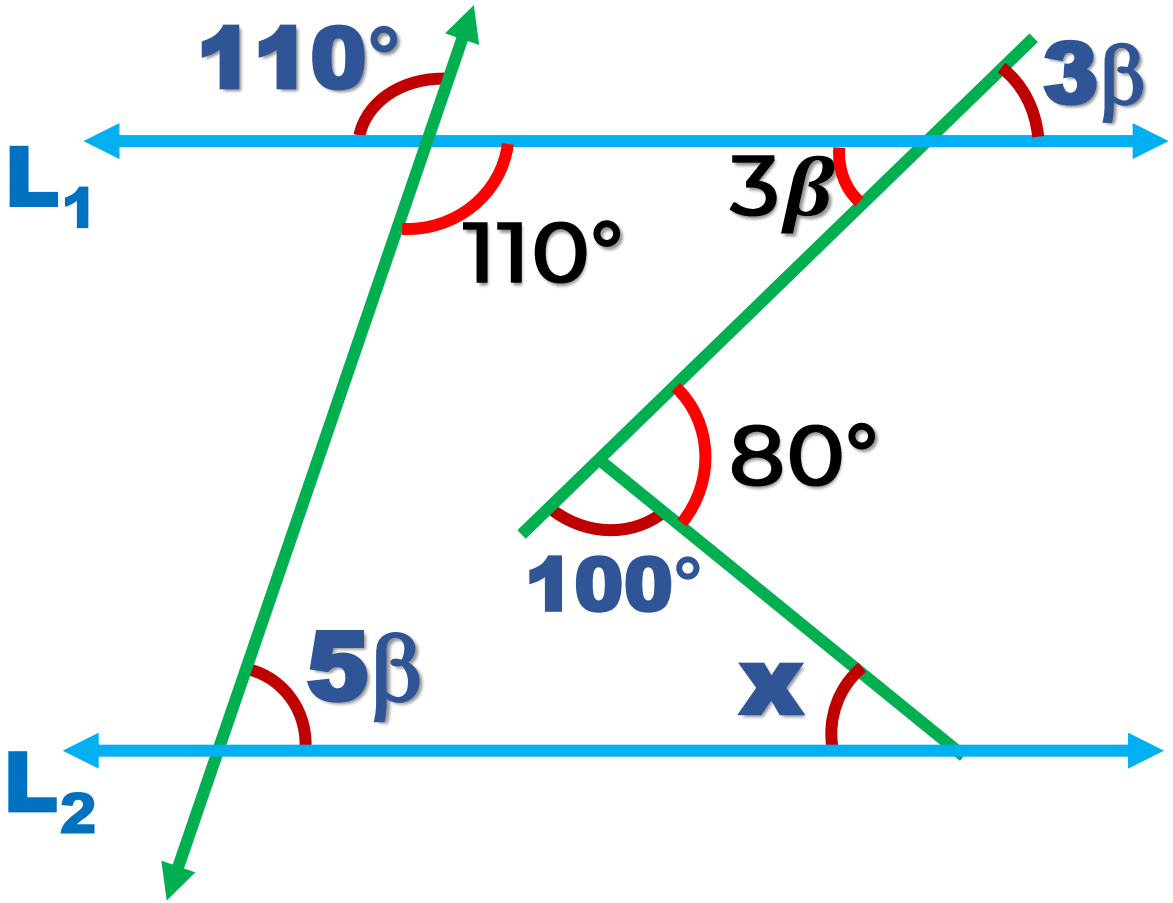
$90° - 3x < 30°$

$60° < 3x$

$20° < x$

$x_{min} = 21°$

2. Si L1 // L2, halle el valor de x.



Resolución

$5\beta + 110° = 180°$

$5\beta = 70°$

$\beta = 14°$

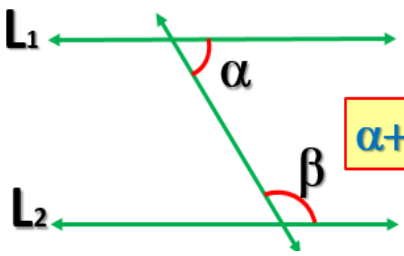
$80° = x + 3\beta$

$80° = x + 3(14°)$

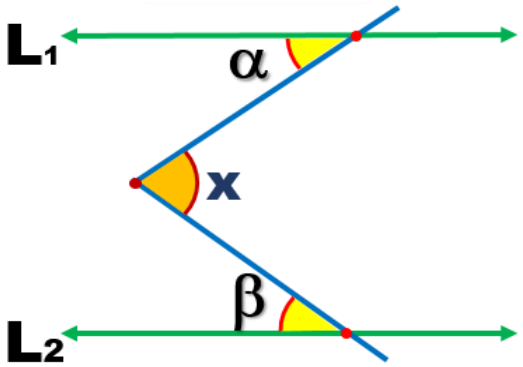
$80° = x + 42°$

$x = 38°$

Ángulos conjugados



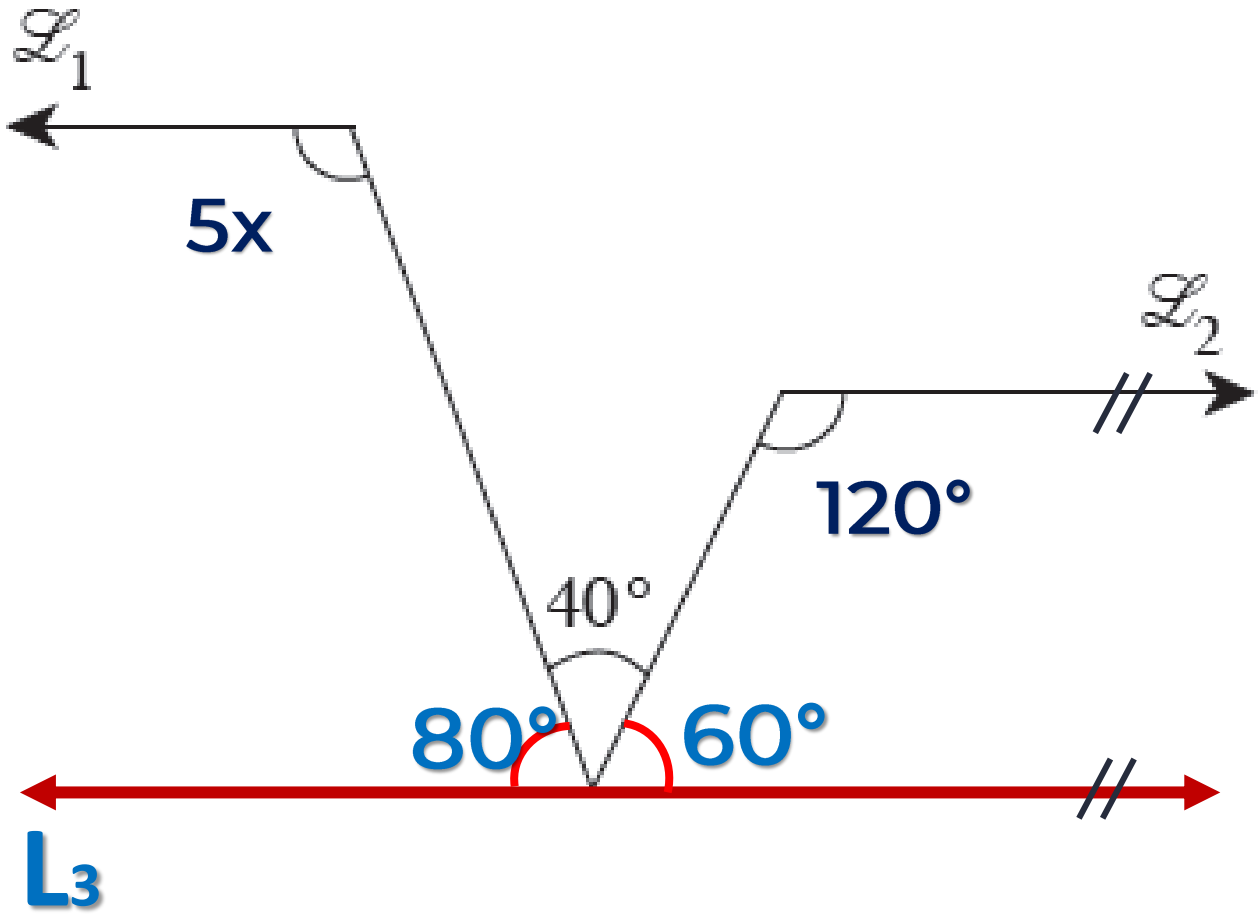
$\alpha + \beta = 180°$



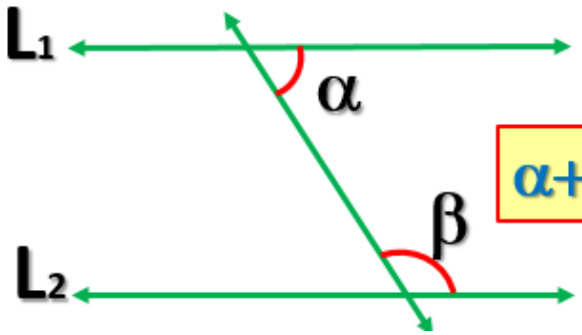
$\alpha + \beta = x$

3. Si $\overleftrightarrow{L1} \parallel \overleftrightarrow{L2}$, halle el valor de *x*.

Resolución



Ángulos conjugados



$\alpha+\beta=180°$

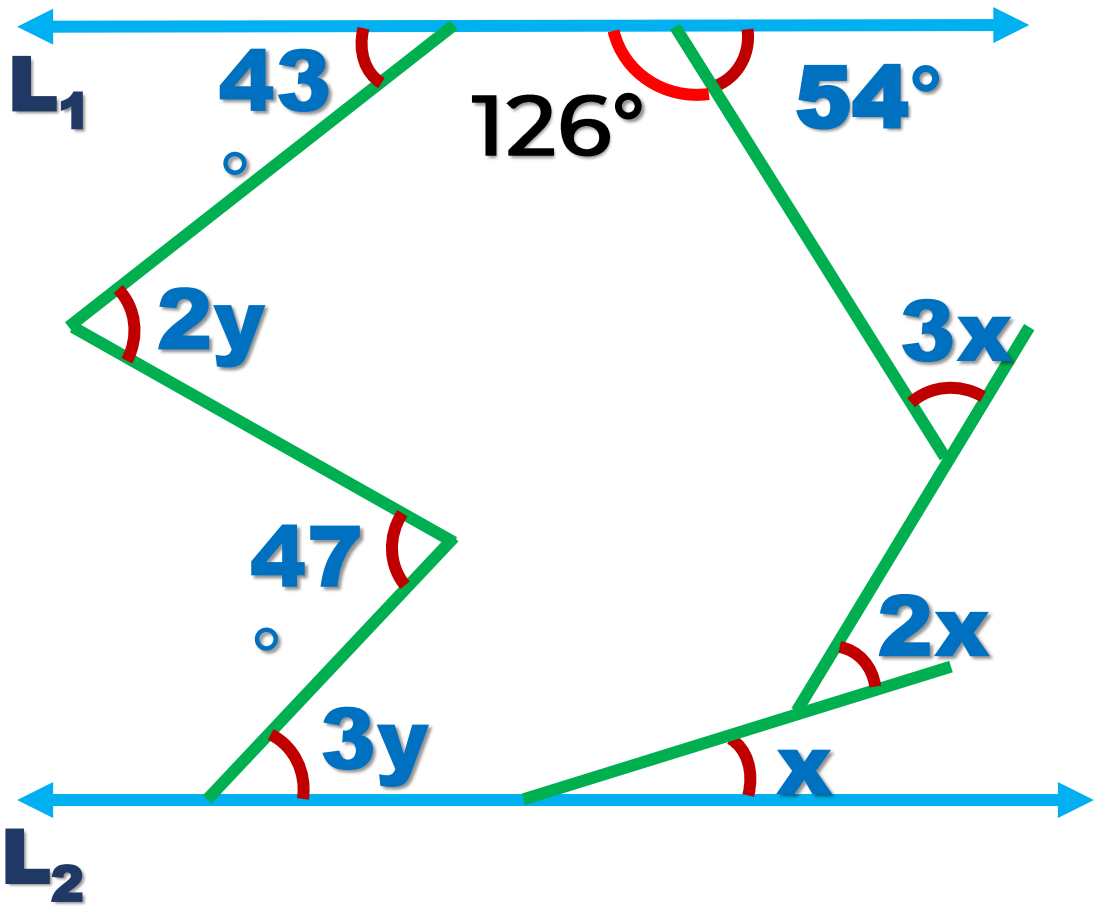
$5x + 80° = 180°$

$5x = 100°$

$\boxed{x = 20°}$

4. Si $\overleftrightarrow{L1} \parallel \overleftrightarrow{L2}$, calcular x + y.

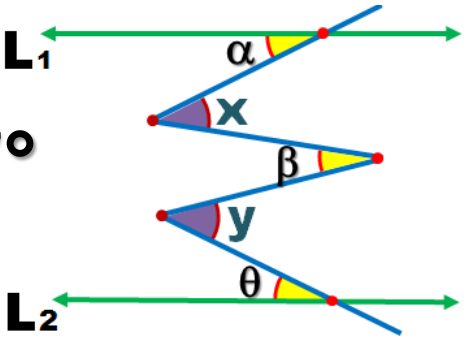
Resolución



- $2y+3y = 43°+47°$

$5y = 90°$

$y = 18°$

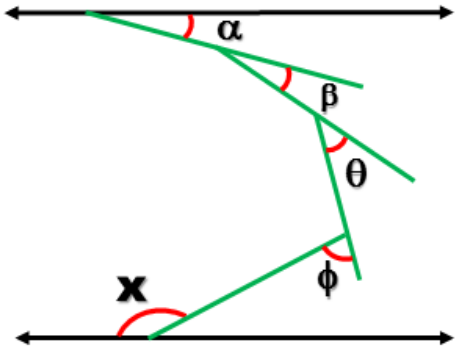


$x+y = \alpha+\beta+\theta$

- $126° = x+2x+3x$

$126° = 6x$

$x = 21°$

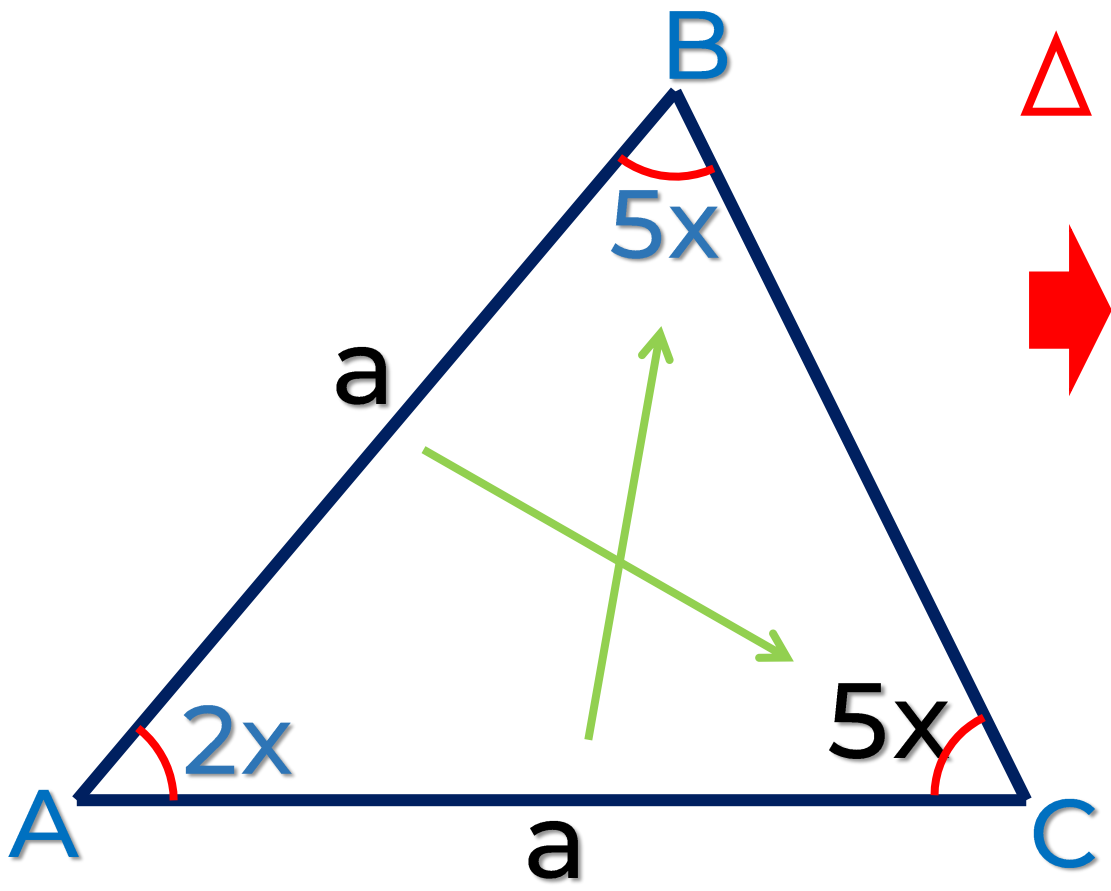


$x = \alpha + \beta + \theta + \phi$

$\mathbf{x + y = 39°}$

5. Halle el valor de x si AB = AC

Resolución



ΔABC: ISÓSCELES

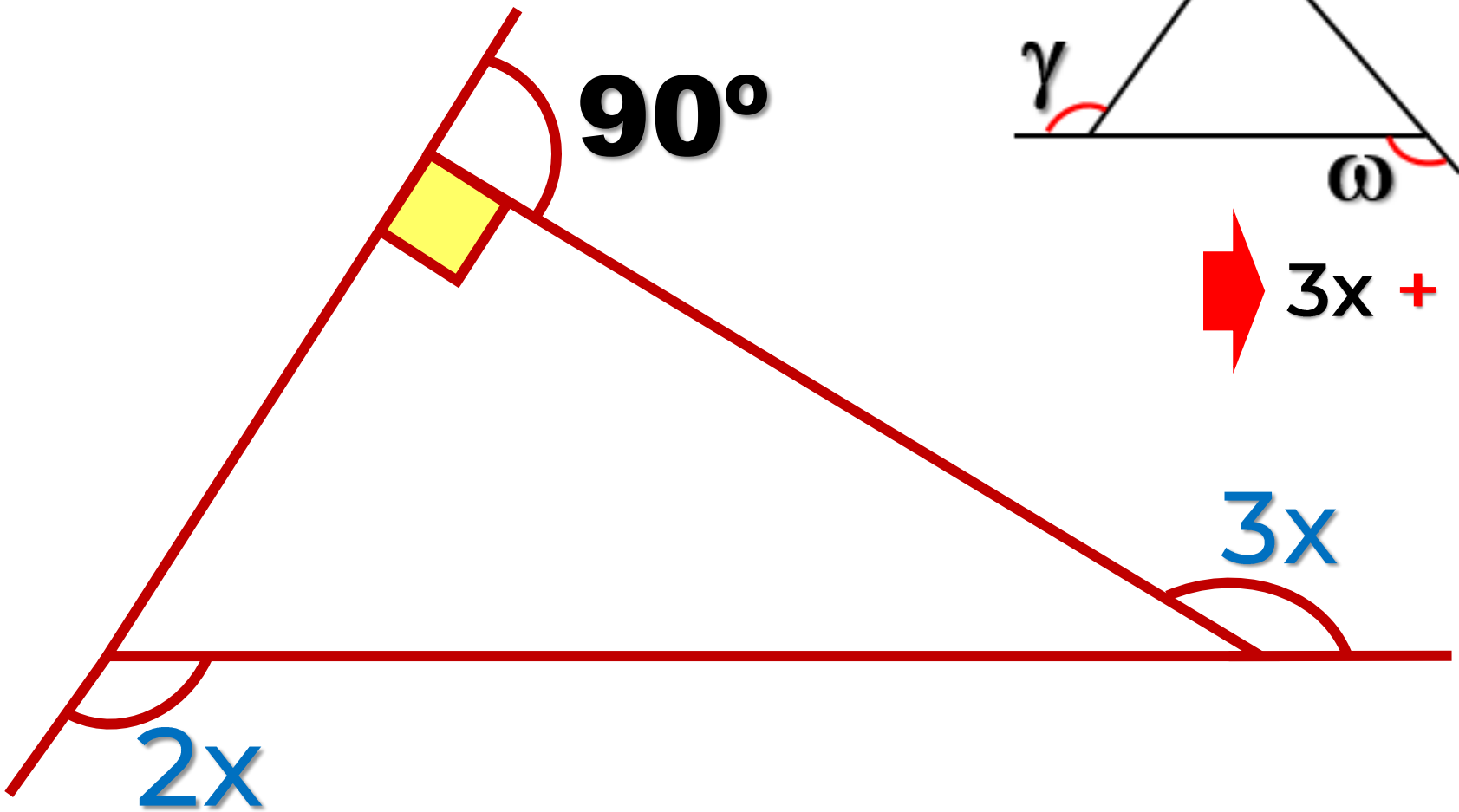
$$2x + 5x + 5x = 180°$$

$$12x = 180°$$

$$\boxed{x = 15°}$$

6. Halle el valor de *x*.

Resolución



$\omega + \phi + \gamma = 360°$

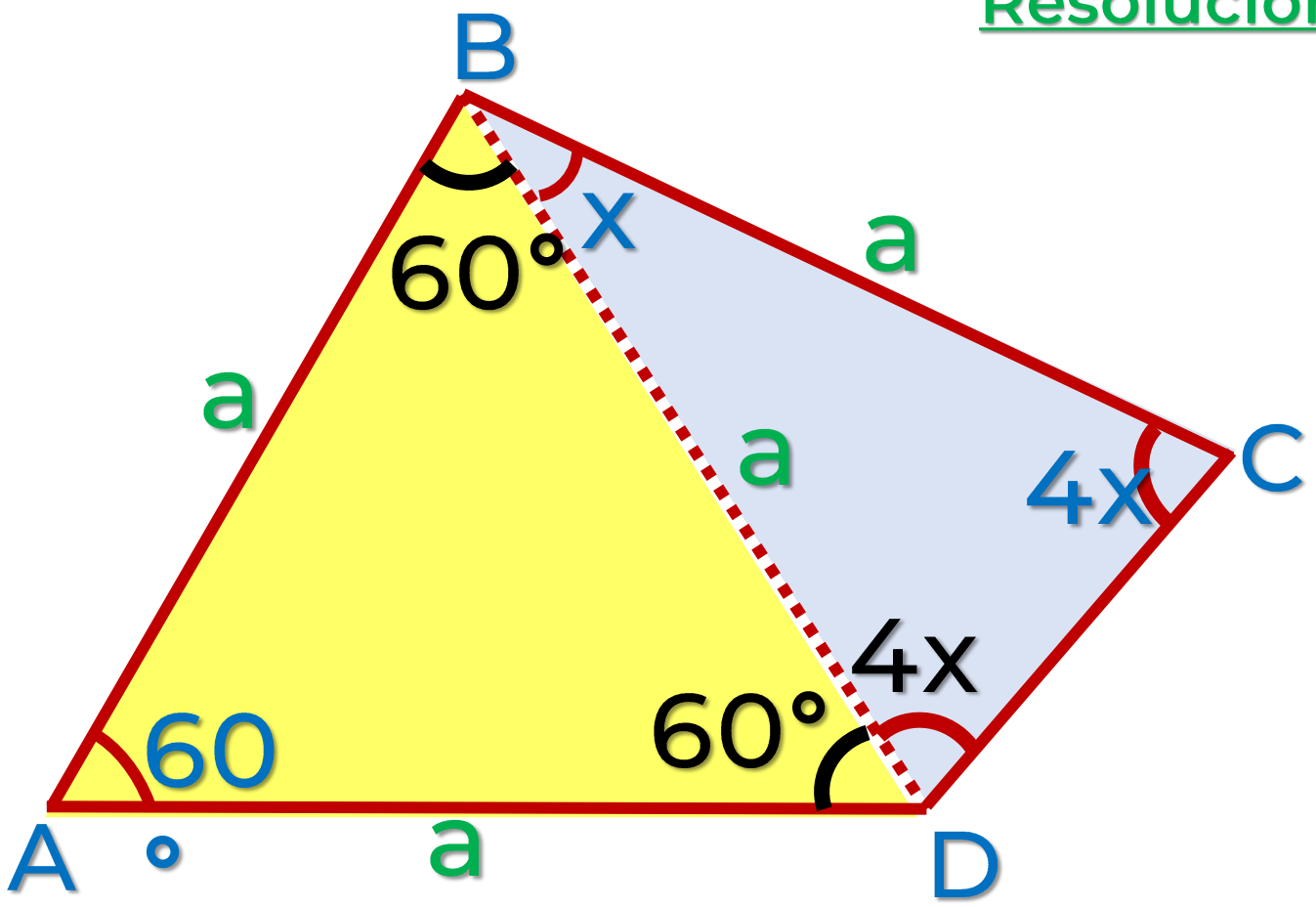
$3x + 2x + 90° = 360°$

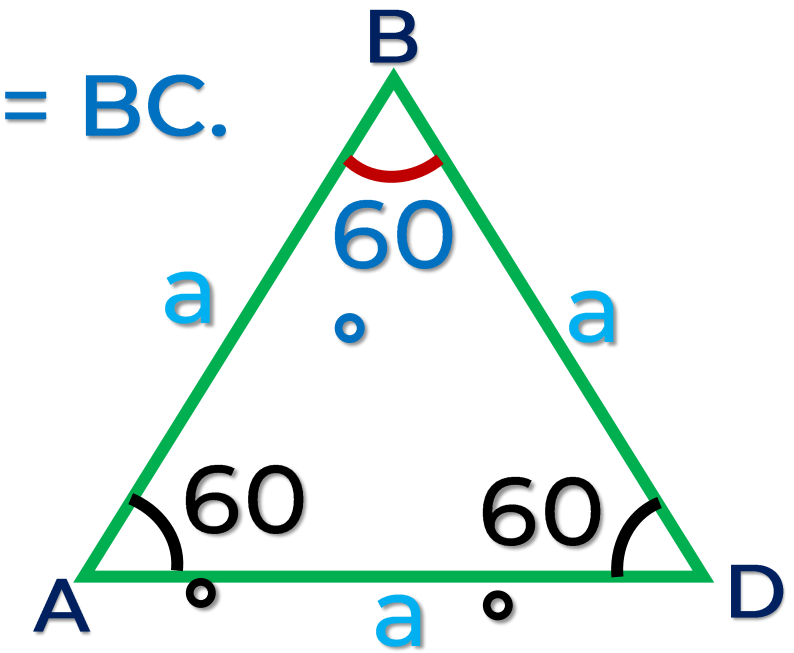
$5x = 270°$

$x = 54°$

7. Halle el valor de *x* si AB = AD = BC.

Resolución





△ ABD: EQUILÁTERO

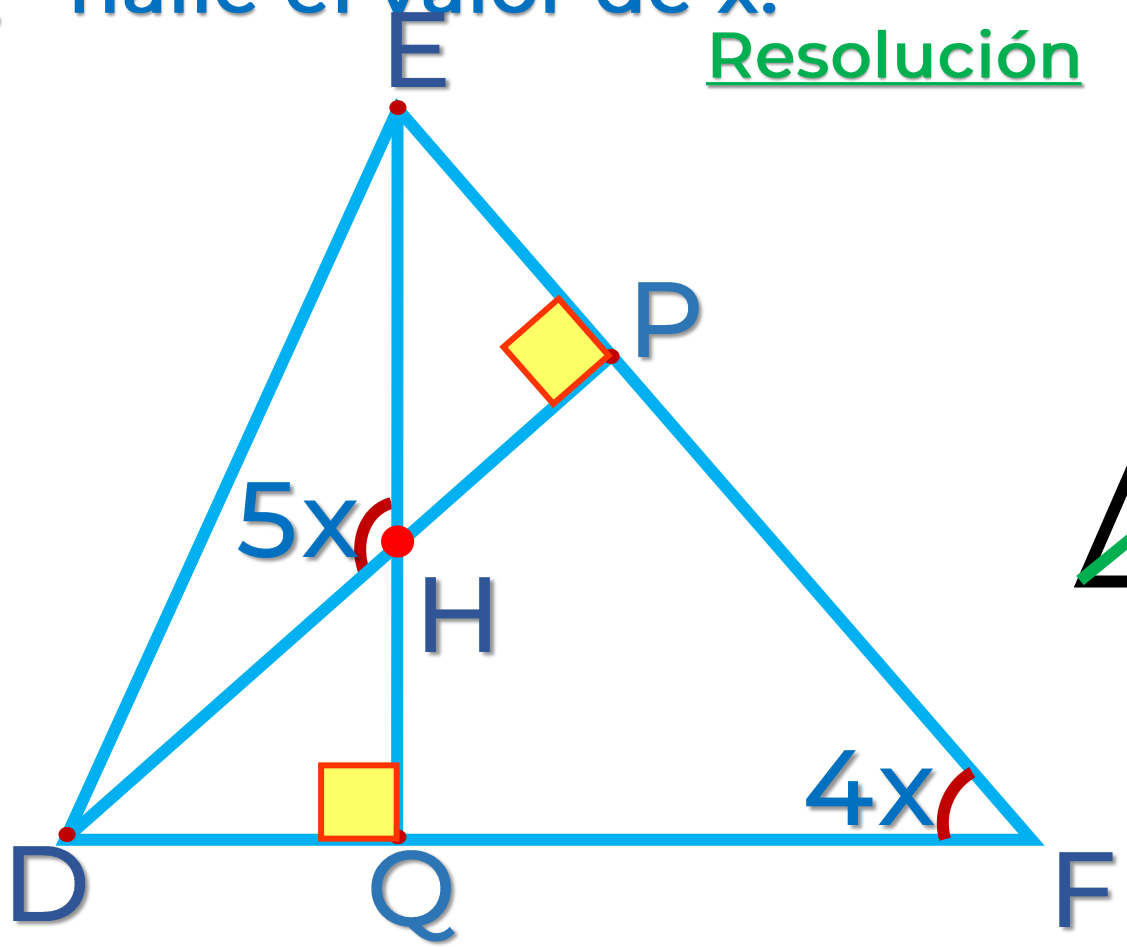
△ BCD: ISÓSCELES

$4x + 4x + x = 180°$

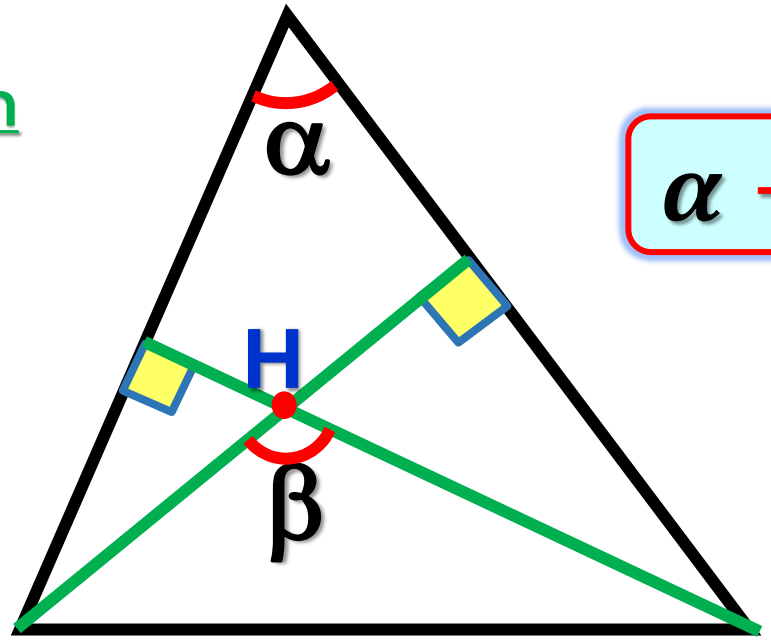
$9x = 180°$

$\boxed{x = 20°}$

8. En la siguiente figura $\overline{EQ}$ y $\overline{DP}$ son alturas, halle el valor de x.



Resolución



$\alpha + \beta = 180°$

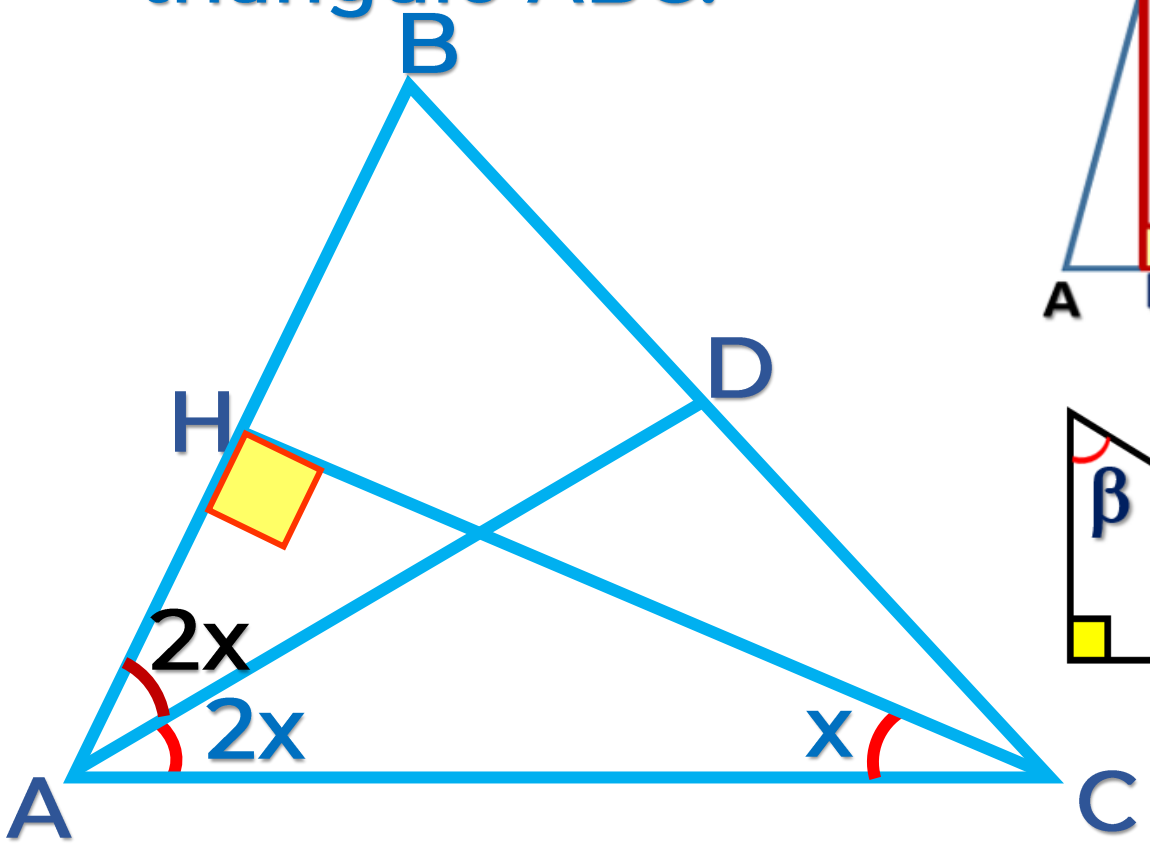
$5x + 4x = 180°$

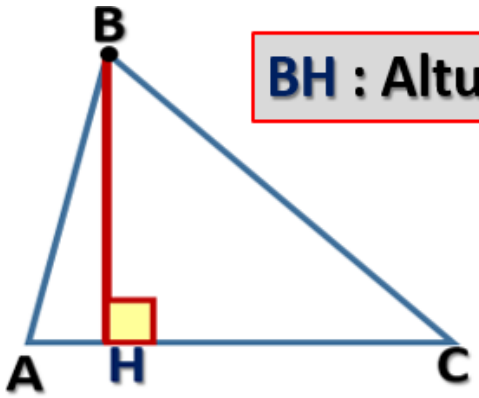
$9x = 180°$

$x = 20°$

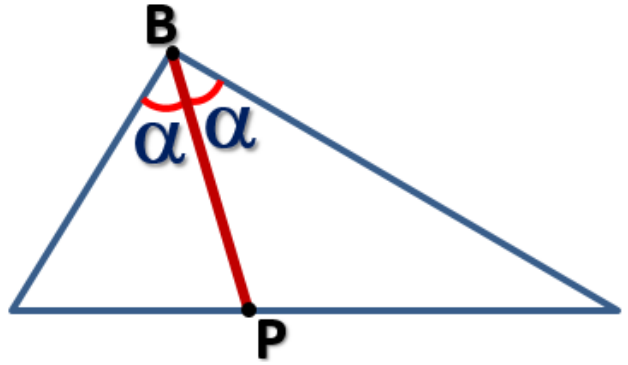
9. Halle el valor de $\overline{x}$, si $\overline{CH}$ es altura y $\overline{AD}$ es bisectriz interior en el triángulo ABC.

Resolución

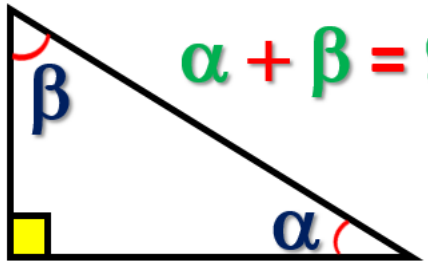




BH : Altura



$\overline{BP}$: Bisectriz Interior



$\alpha + \beta = 90°$

En el △ AHC:

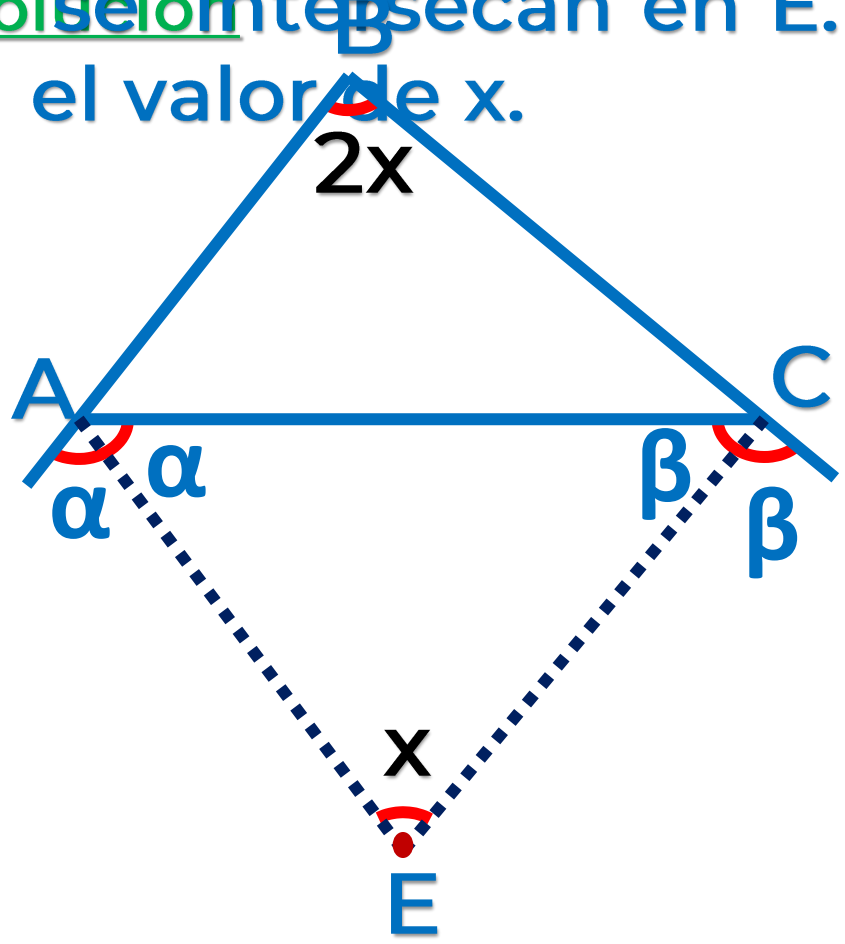
$4x + x = 90°$

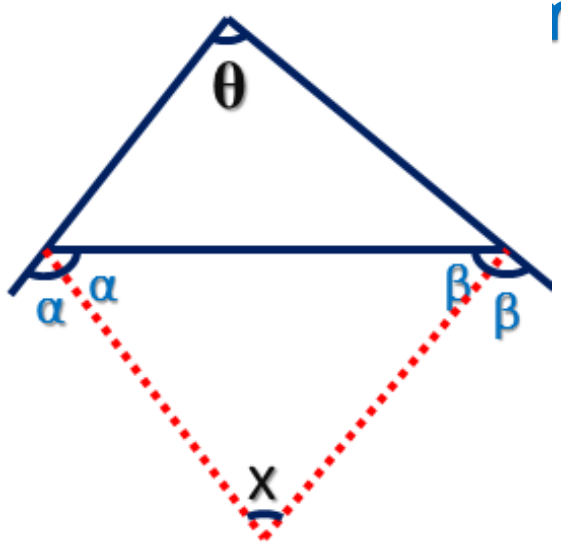
$5x = 90°$

$x = 18°$

10. En un triángulo ABC, las bisectrices exteriores de los ángulos A y C, se intersecan en E. Si m∠ABC=2x, m∠AEC=x, halle el valor de x.

Resolución





$$x = 90° - \frac{\theta}{2}$$

$x = 90° - \frac{2x}{2}$ $\quad 2x = 90°$

$$x = 45°$$