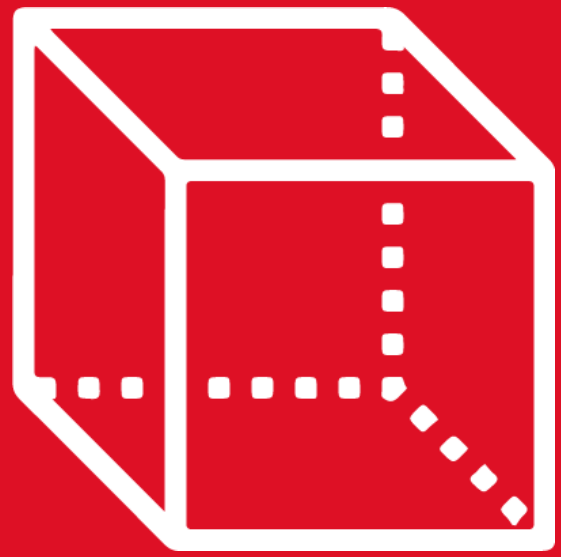
GEOMETRÍA

Capítulo 5

Sesión 2



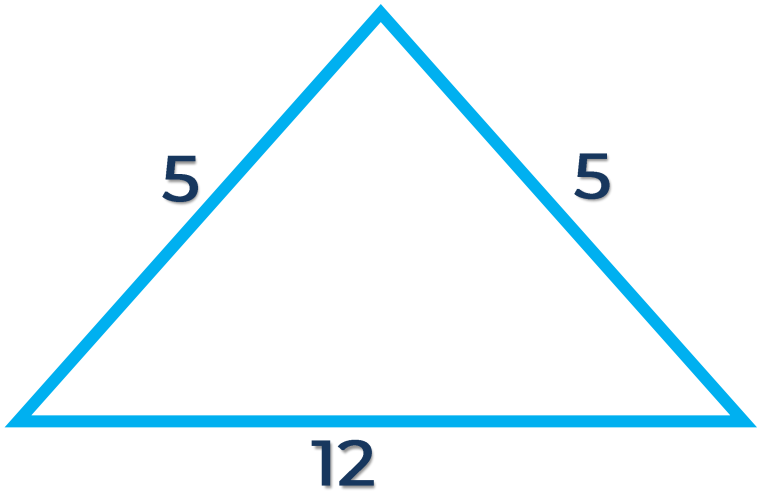
3th
SECONDARY

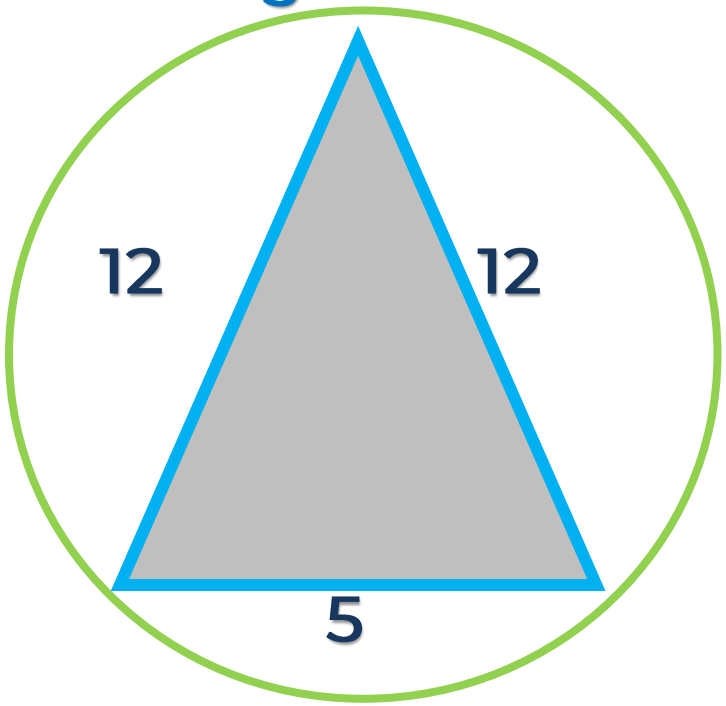
TRIÁNGULOS

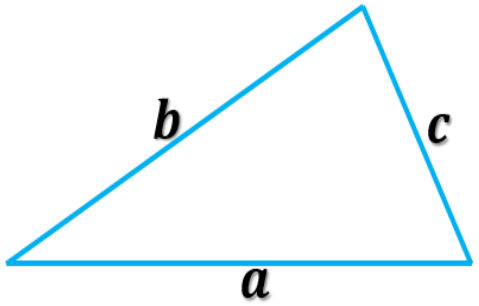
SACO OLIVEROS

1. Los lados de un triángulo isósceles miden 12 y 5cm. Calcule el perímetro de la región triangular.

Resolución







donde: $c < b < a$

$$b-c < a < b+c$$

$5-5 < 12 < 5+5$

$0 < 12 < 10$

$12-12 < 5 < 12+12$

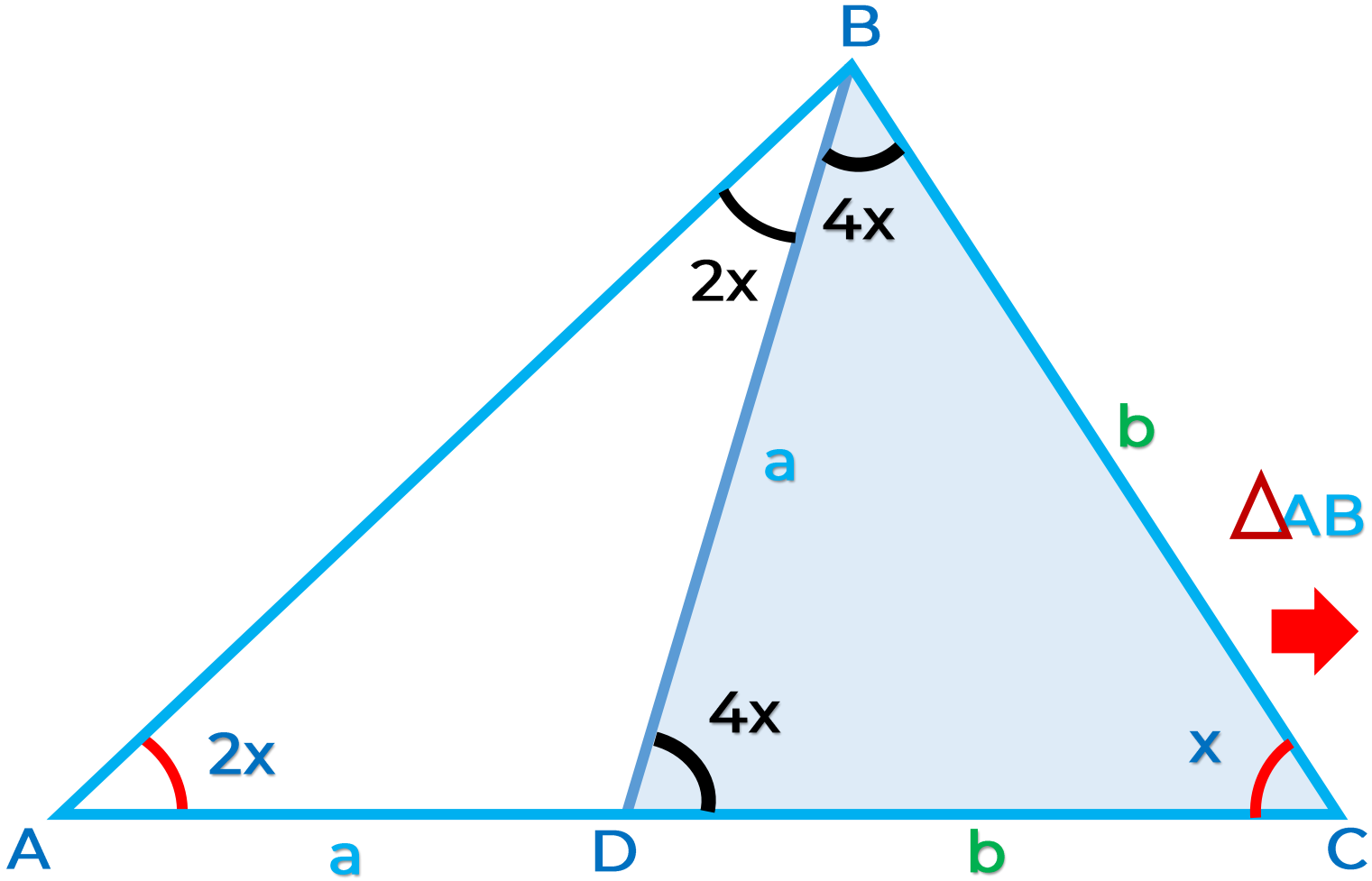
$0 < 5 < 24$

NOS PIDEN

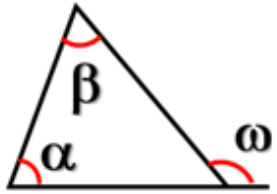
$2p_{\triangle} = 12 + 12 + 5$

$2p_{\triangle} = 29$

2. Halle el valor de x, si AD = DB y BC = CD.



Resolución



$\omega = \alpha + \beta$

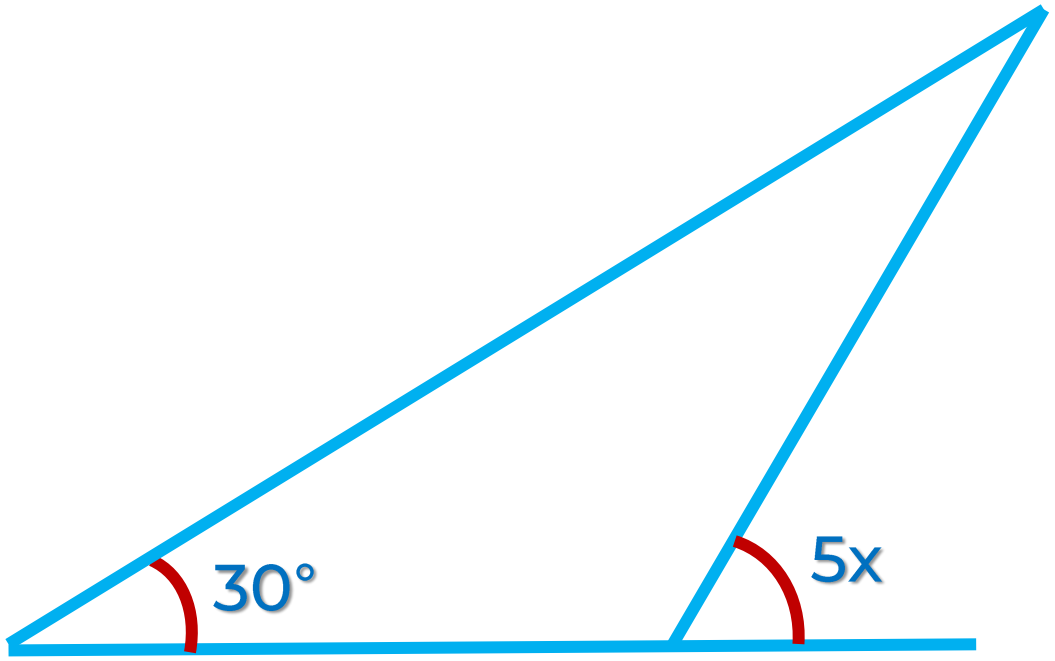
△ABD y △BCD: ISÓSCELES

$4x + 4x + x = 180°$

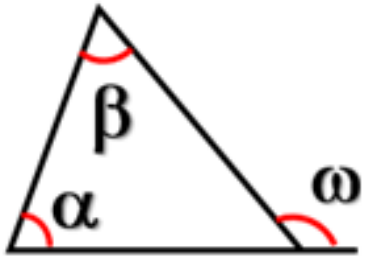
$9x = 180°$

$x = 20°$

3. Halle el menor valor entero que puede tomar *x*.



Resolución



$\omega = \alpha + \beta$

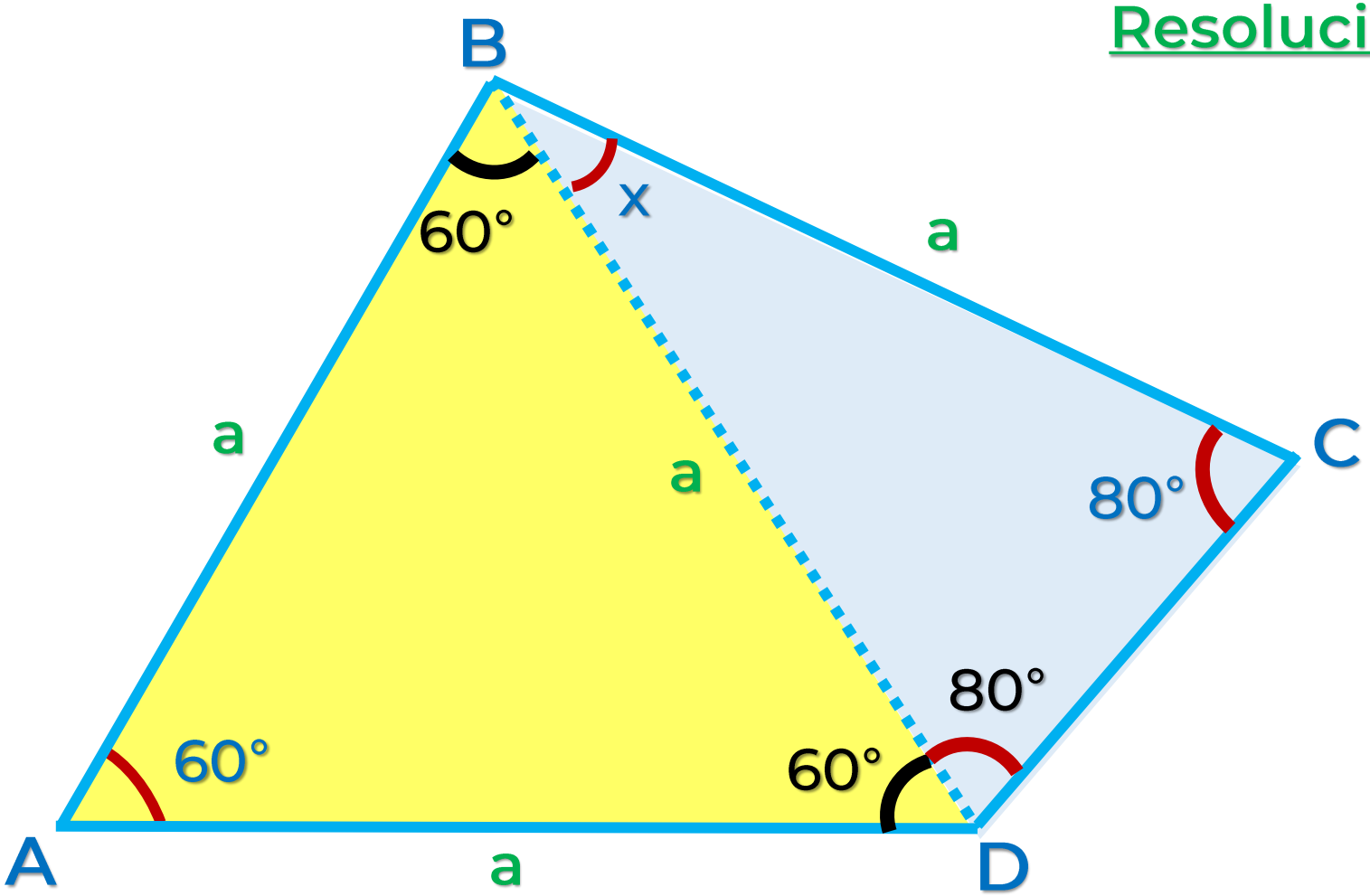
$30° < 5x$

$6° < x$

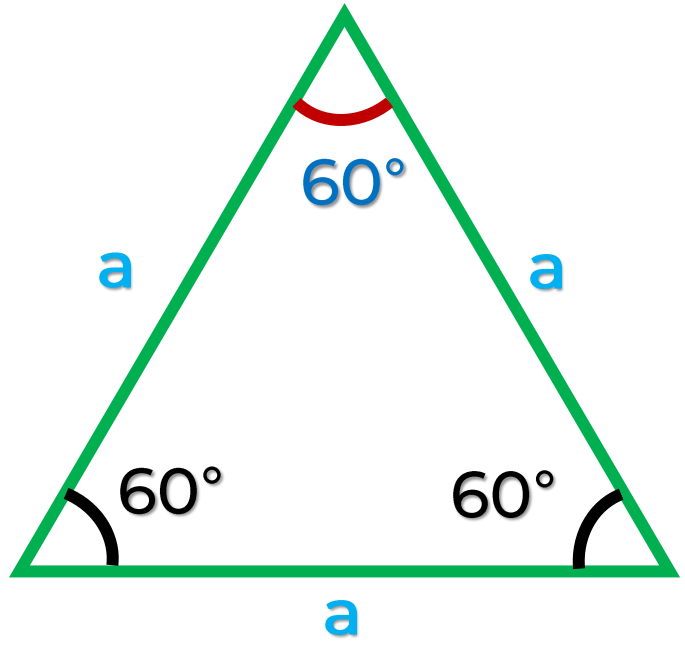
$x = 7°, 8°, 9°...$

$x_{mín} = 7°$

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



Resolución

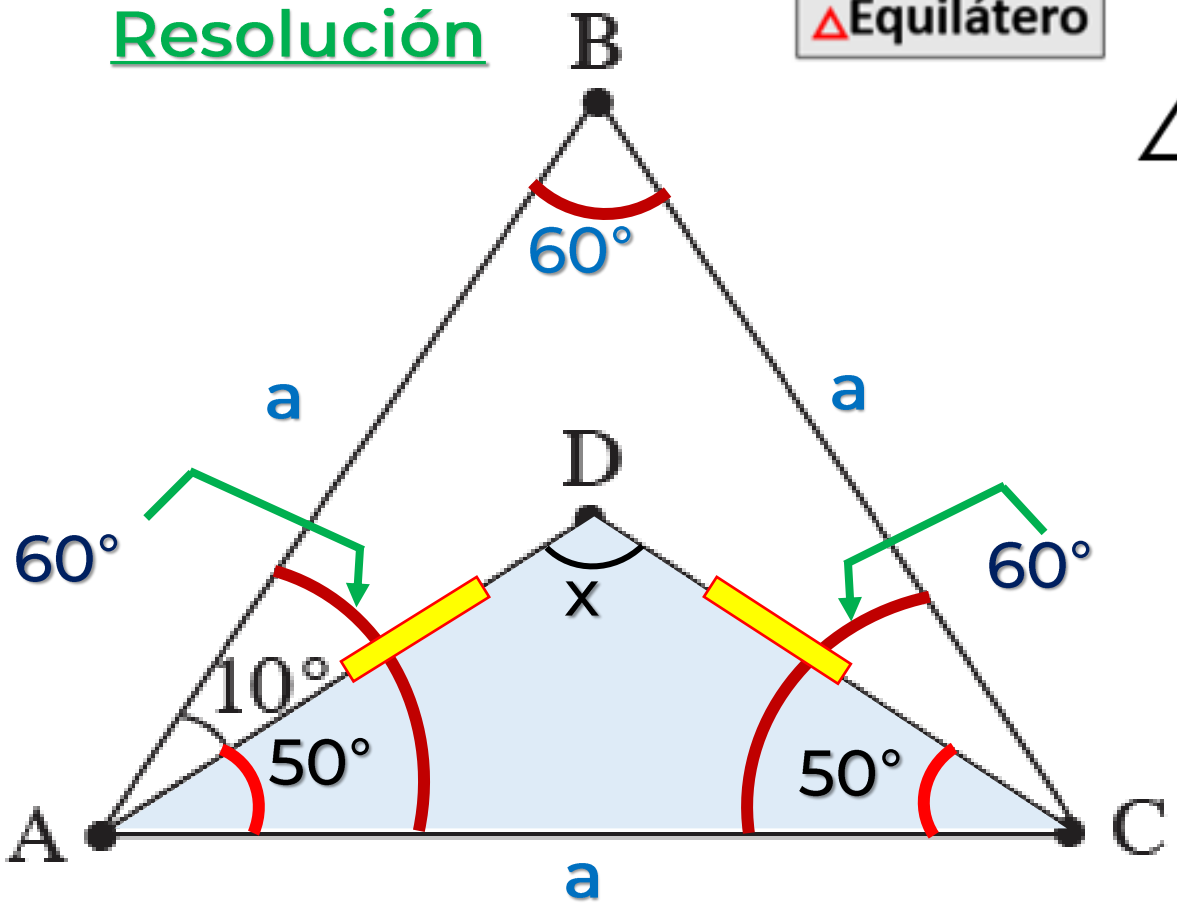


△BCD: ISÓSCELES

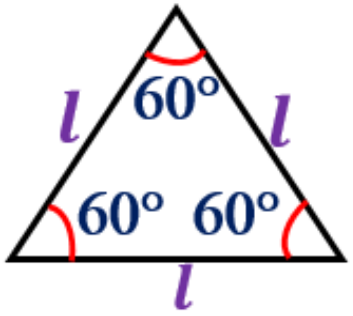
x = 20°

5. Si ABC es un triángulo equilátero y AD = DC, Halle el valor de x.

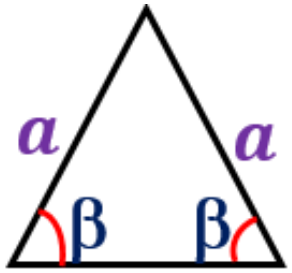
Resolución

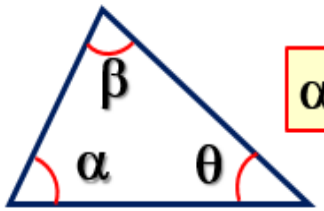


△Equilátero



△Isósceles





$\alpha + \beta + \theta = 180°$

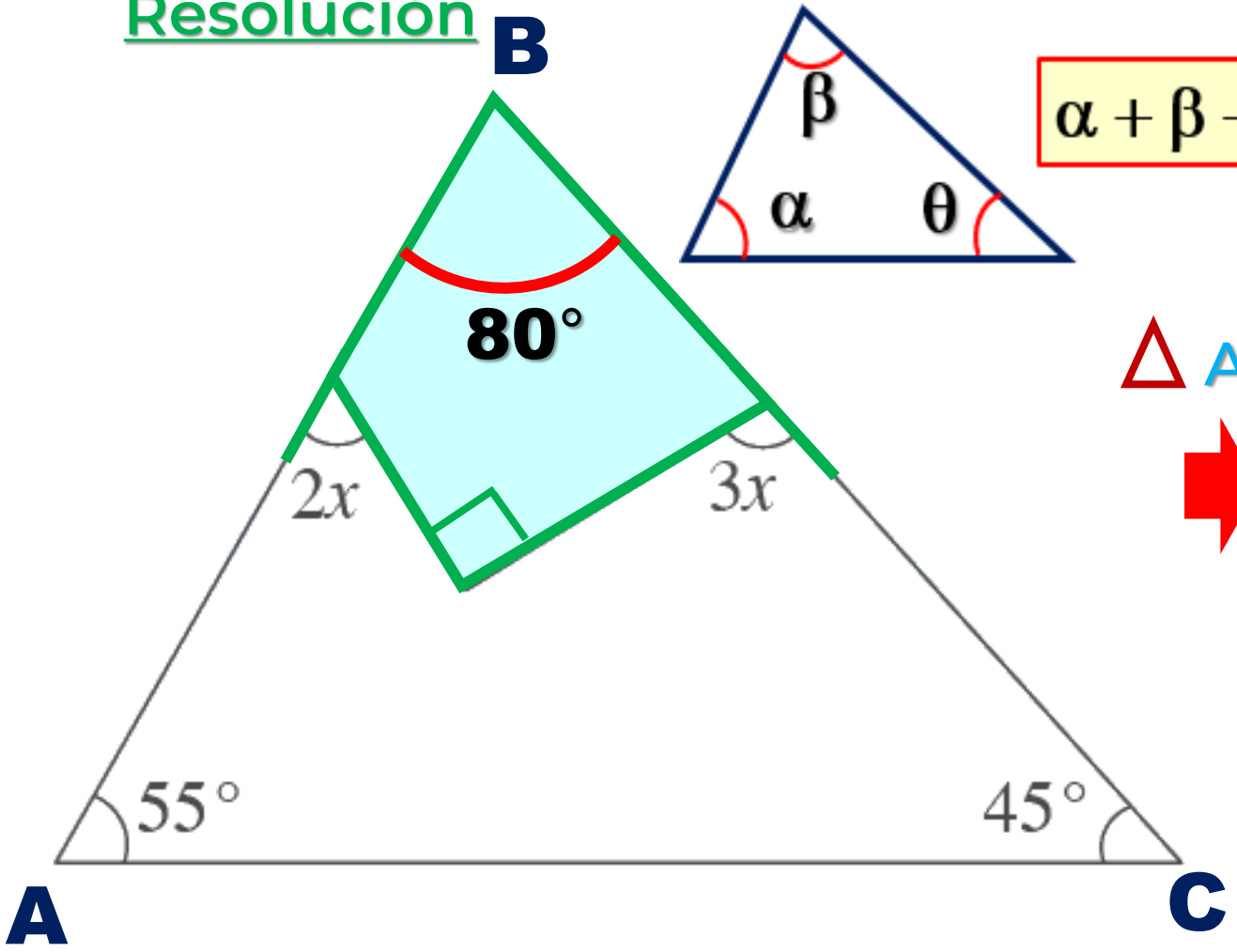
△ACD : Isósceles

$50° + 50° + x = 180°$

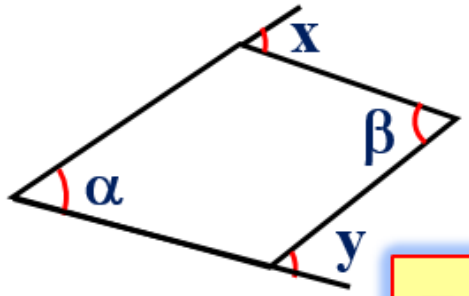
$x = 80°$

6. Halle el valor entero de x.

Resolución



$$\alpha + \beta + \theta = 180°$$



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

$\triangle$ ABC :

- $55° + 45° + \beta = 180°$

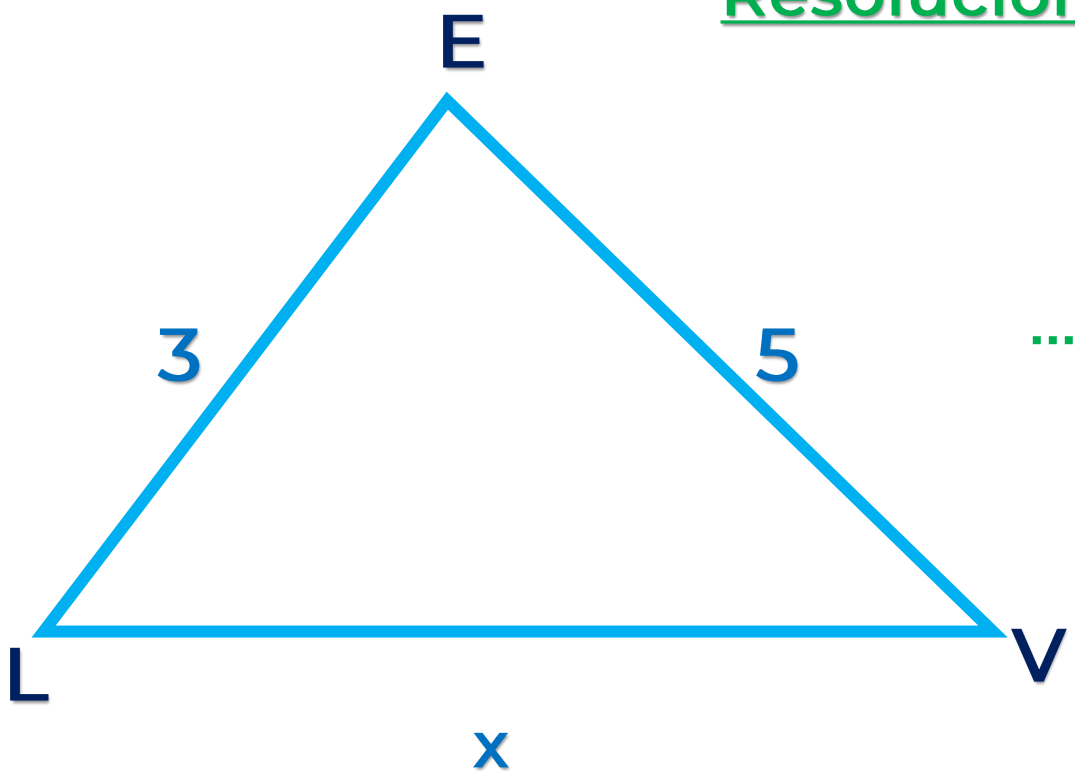
  $\beta = 80°$

- $80° + 90° = 2x + 3x$

  $170° = 5x$

$$x = 34°$$

7. Calcule la suma de valores enteros de LV si LEV es un triángulo escaleno.

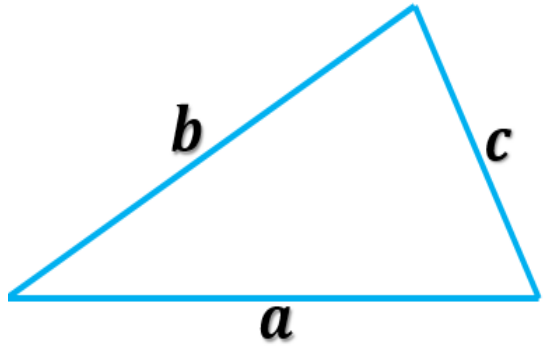


Resolución

- **Teorema de la existencia**

donde: $c < b < a$

$$b - c < a < b + c$$



$$5 - 3 < x < 5 + 3$$

$$2 < x < 8$$

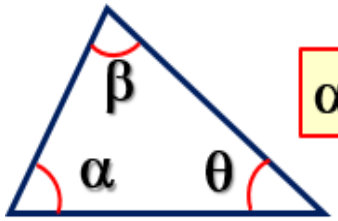
$$x = 3 ; 4 ; 5 ; 6 ; 7$$

Nos piden:

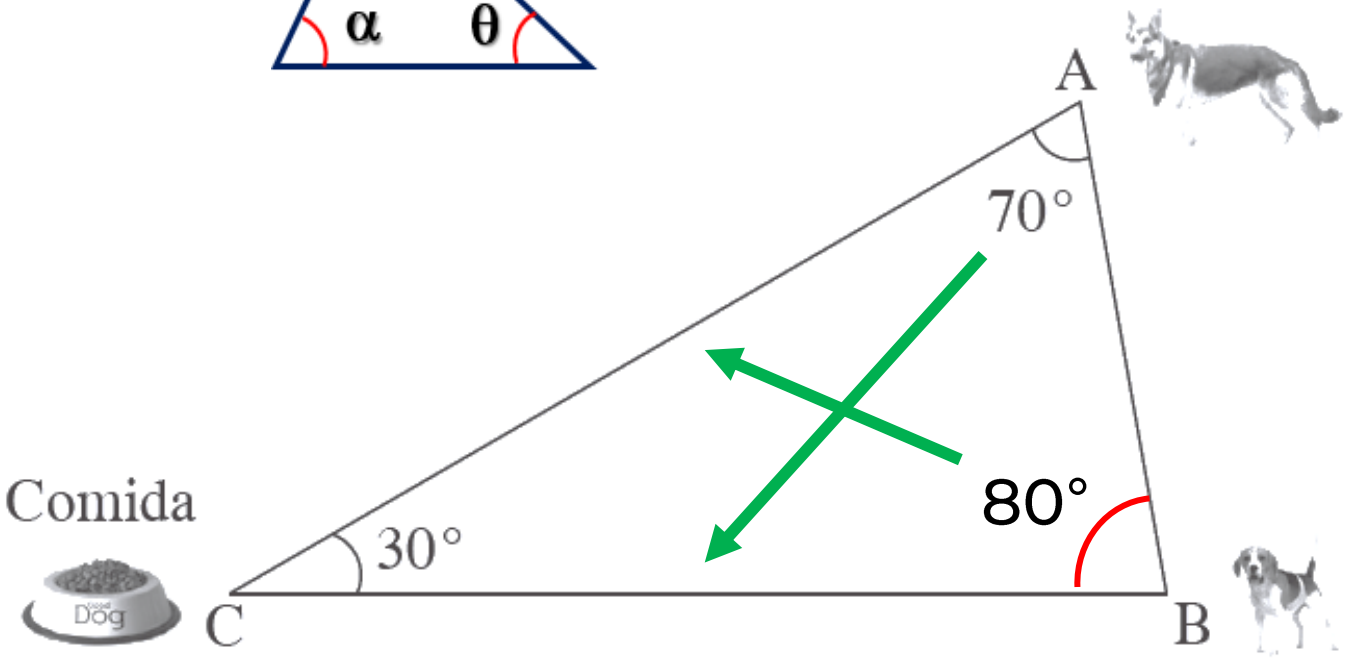
$$3 + 4 + 5 + 6 + 7 = 25$$

8. En la figura, ¿Cuál de los dos canes se encuentra más cerca a la comida.

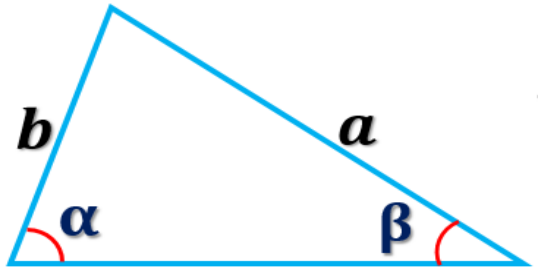
Resolución



$$\alpha + \beta + \theta = 180°$$



- **Teorema de la correspondencia**



Si: $\beta < \alpha$

$b < a$

$BC < AC$

El can en el vértice B