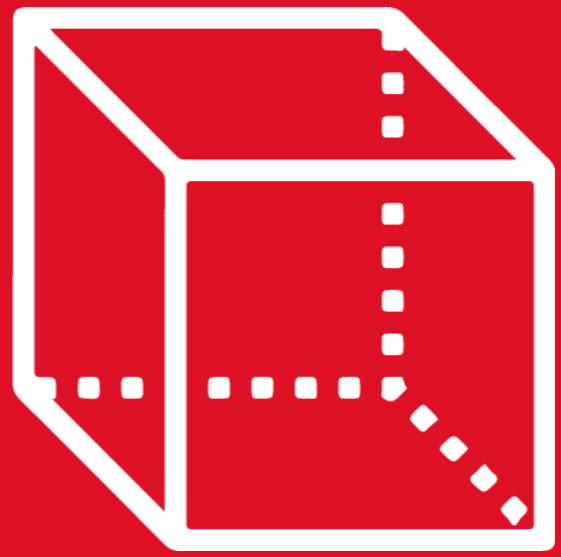
GEOMETRÍA

Capítulo 12

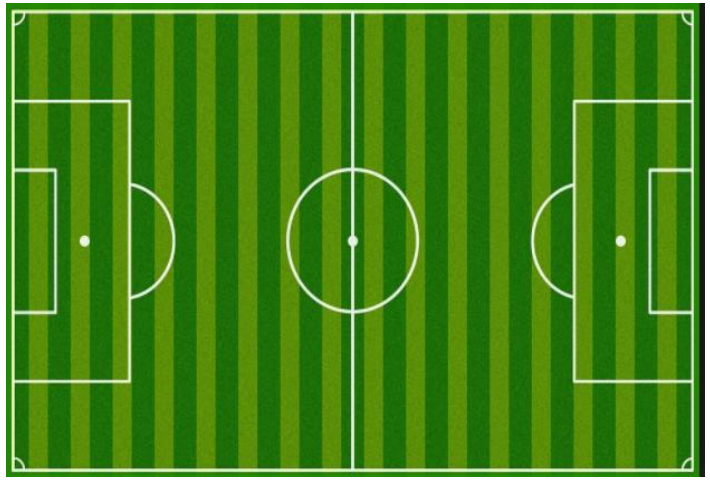


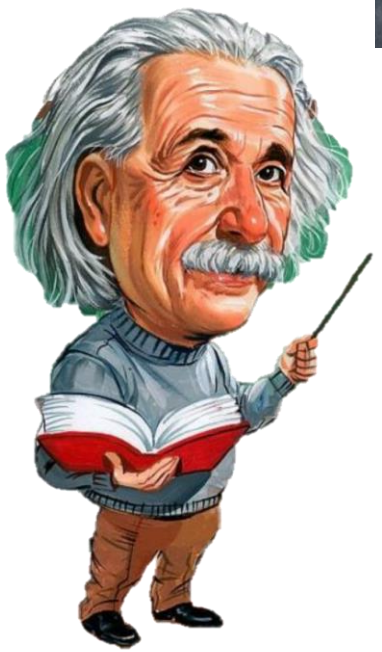
3st
SECONDARY

Paralelogramos

SACO OLIVEROS

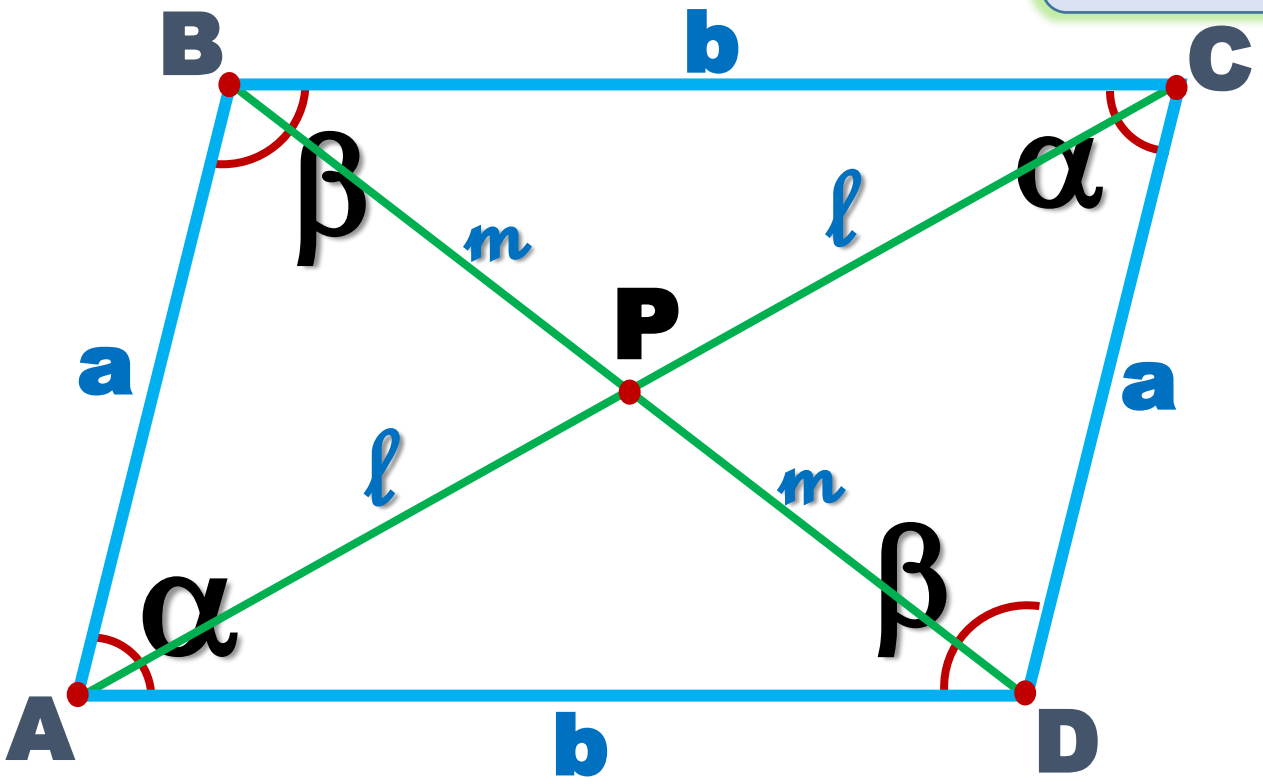
MOTIVATING | STRATEGY





PARALELOGRAMO

Definición : Es aquel cuadrilátero que tiene sus lados opuestos paralelos y congruentes.



ABCD: PARALELOGRAMO

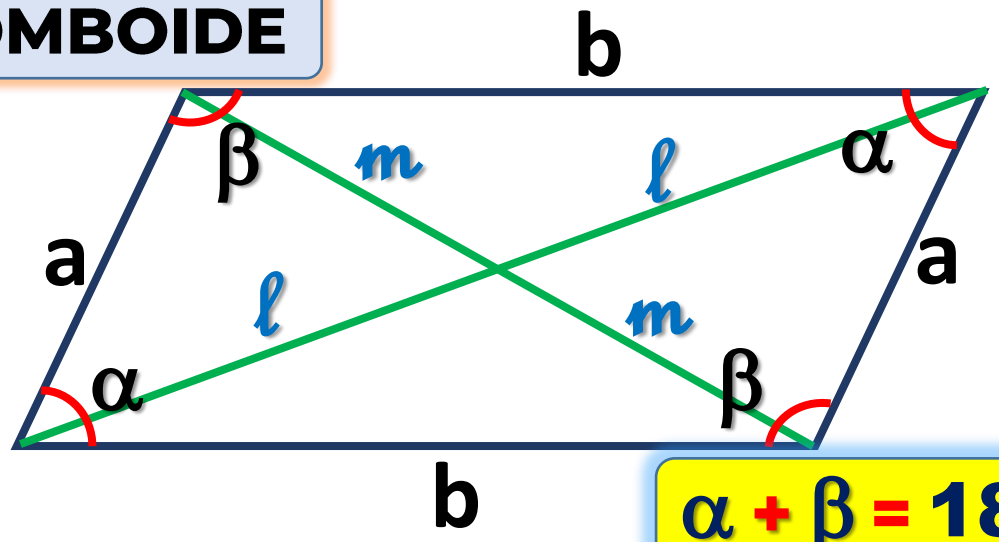
- $\overline{AB} \parallel \overline{CD}$ ∧ $\overline{BC} \parallel \overline{AD}$
- $AB = CD$ ∧ $BC = AD$

$$a + \beta = 180°$$

- $AP = PC$ ∧ $BP = PD$

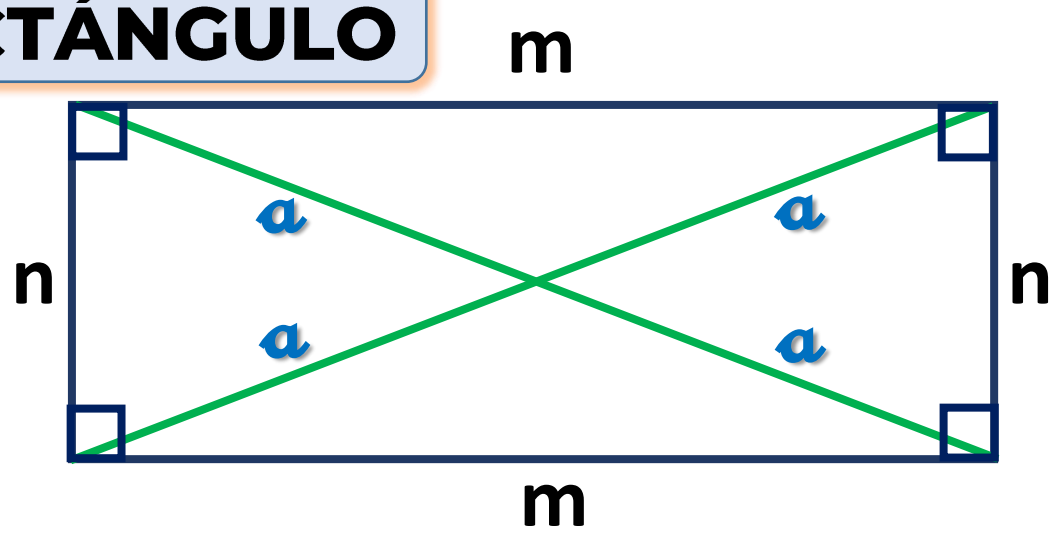
CLASIFICACIÓN DE LOS PARALELOGRAMOS

ROMBOIDE

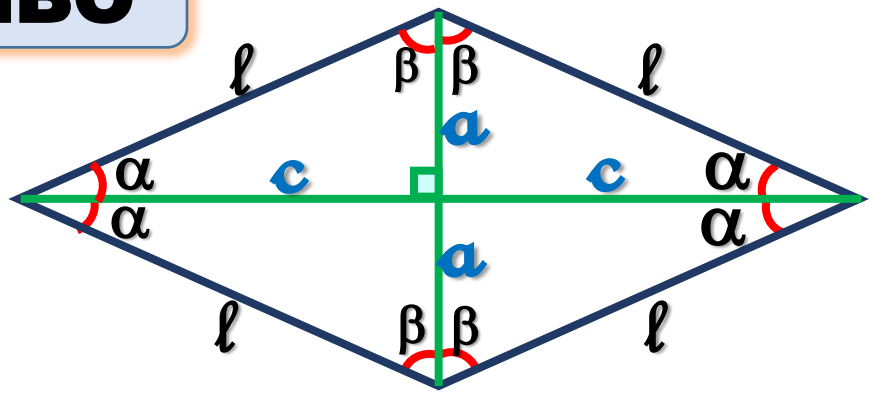


$\alpha + \beta = 180°$

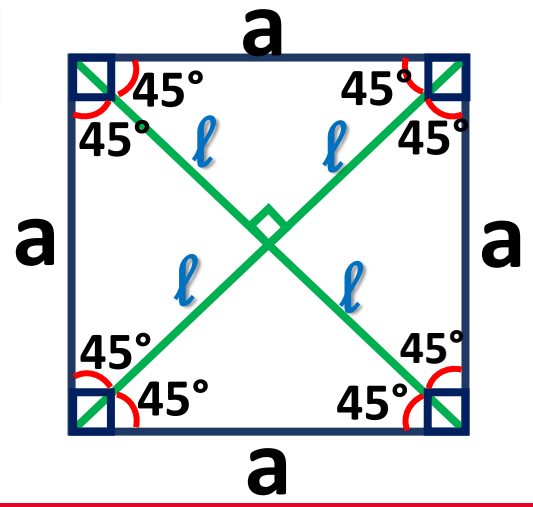
RECTÁNGULO



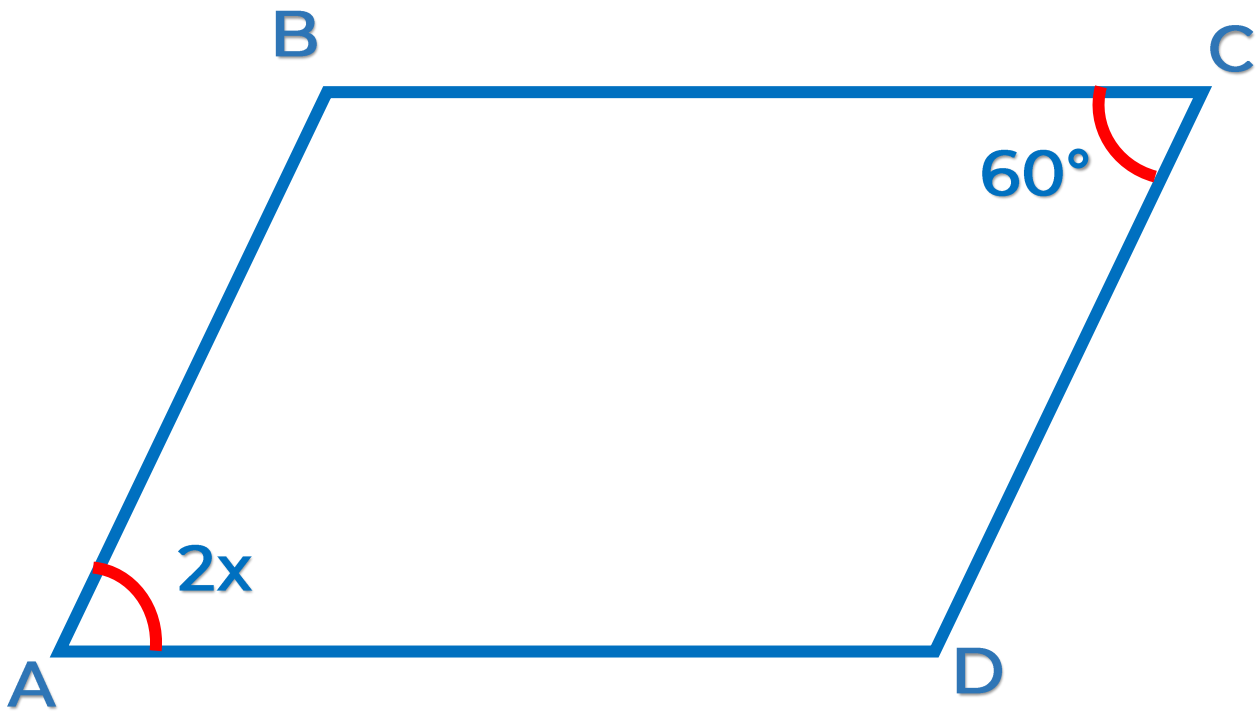
ROMBO



CUADRADO

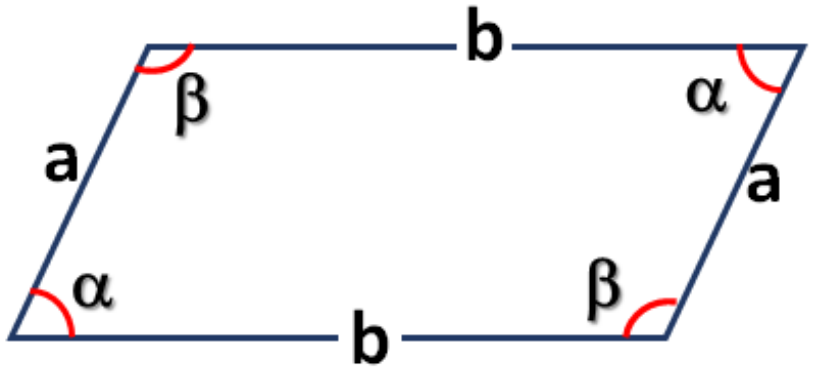


1. En un romboide ABCD, m<A = 2x y m<C = 60°, halle el valor de x.



Romboide

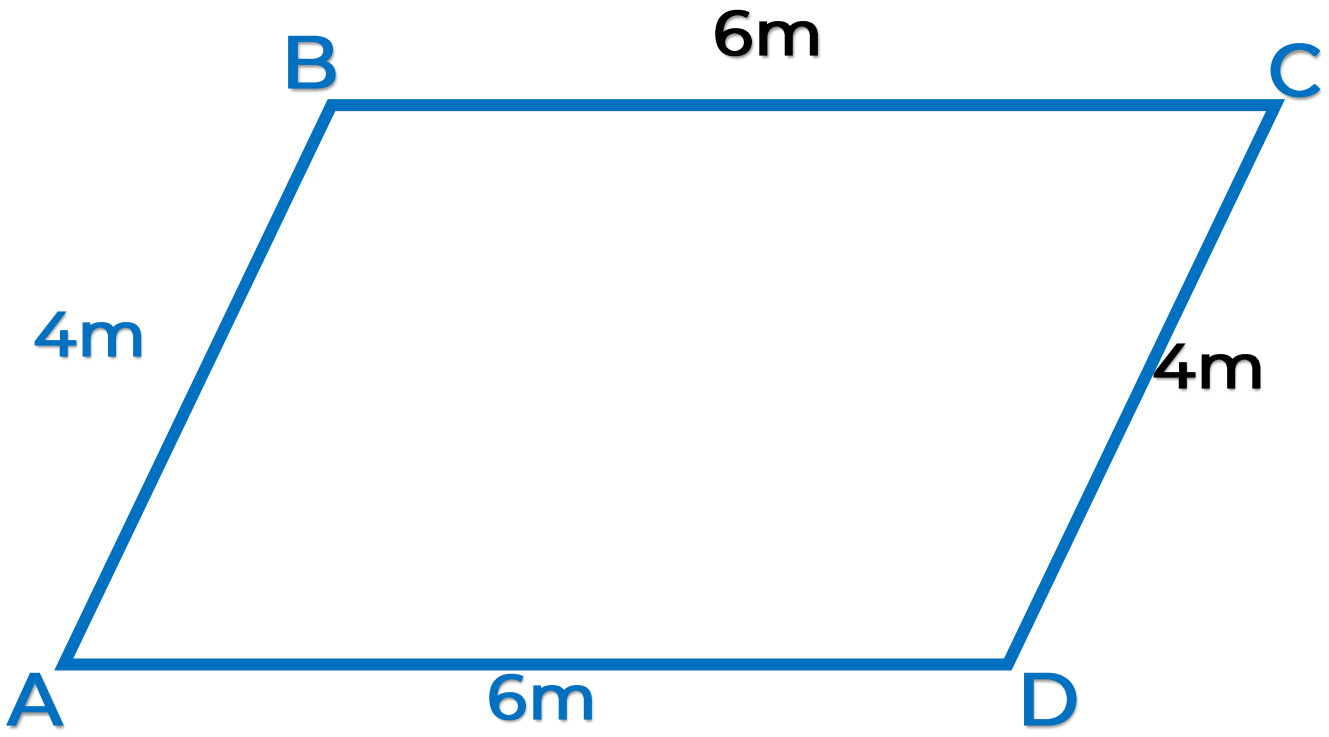
$\alpha+\beta = 180°$



$2x = 60°$

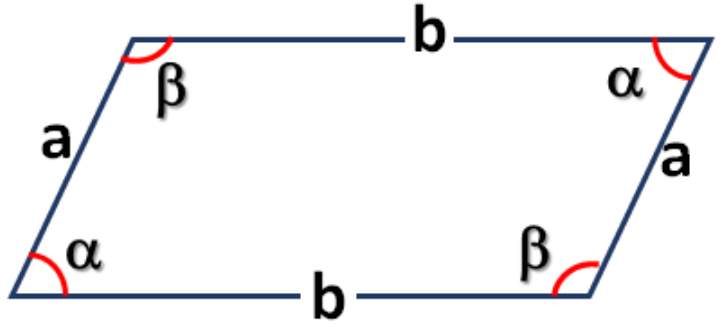
$x = 30°$

2. Las longitudes de dos lados consecutivos de un romboide son 4m y 6m. Calcule el perímetro del romboide



Romboide

$\alpha+\beta=180°$

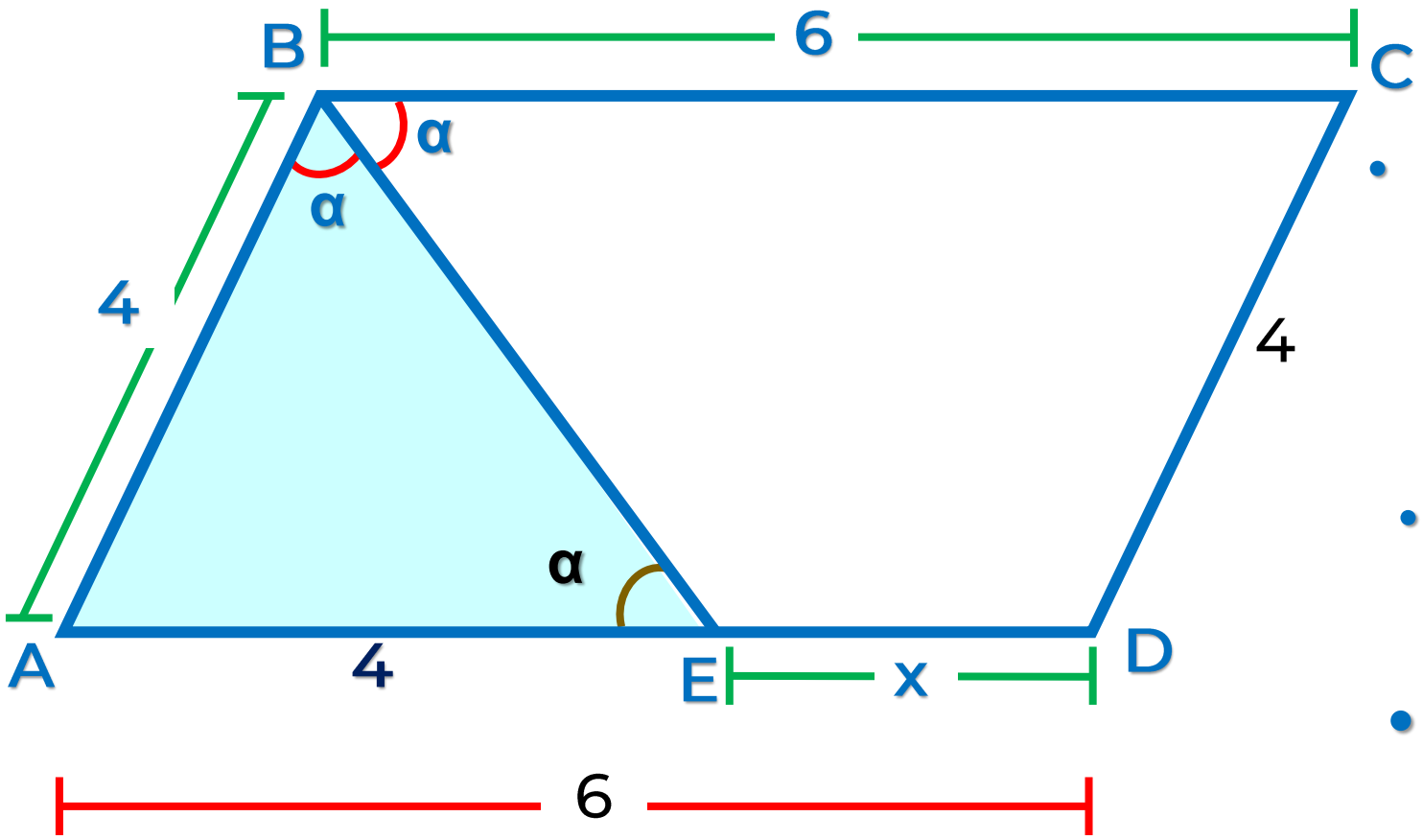


- $\square ABCD$: Romboide

$2p_{\square} = 6 + 4 + 6 + 4$

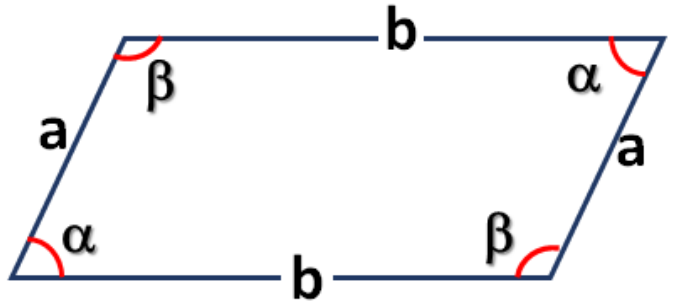
$2p_{\square} = 20$

3. Halle QS. En el romboide, halle el valor de x



Romboide

$\alpha+\beta = 180°$



- $\square ABCD$: Romboide

  $AB = CD = 4$

  $BC = AD = 6$

  $\overline{AD} \parallel \overline{BC}$

- $\triangle ABE$: Isósceles

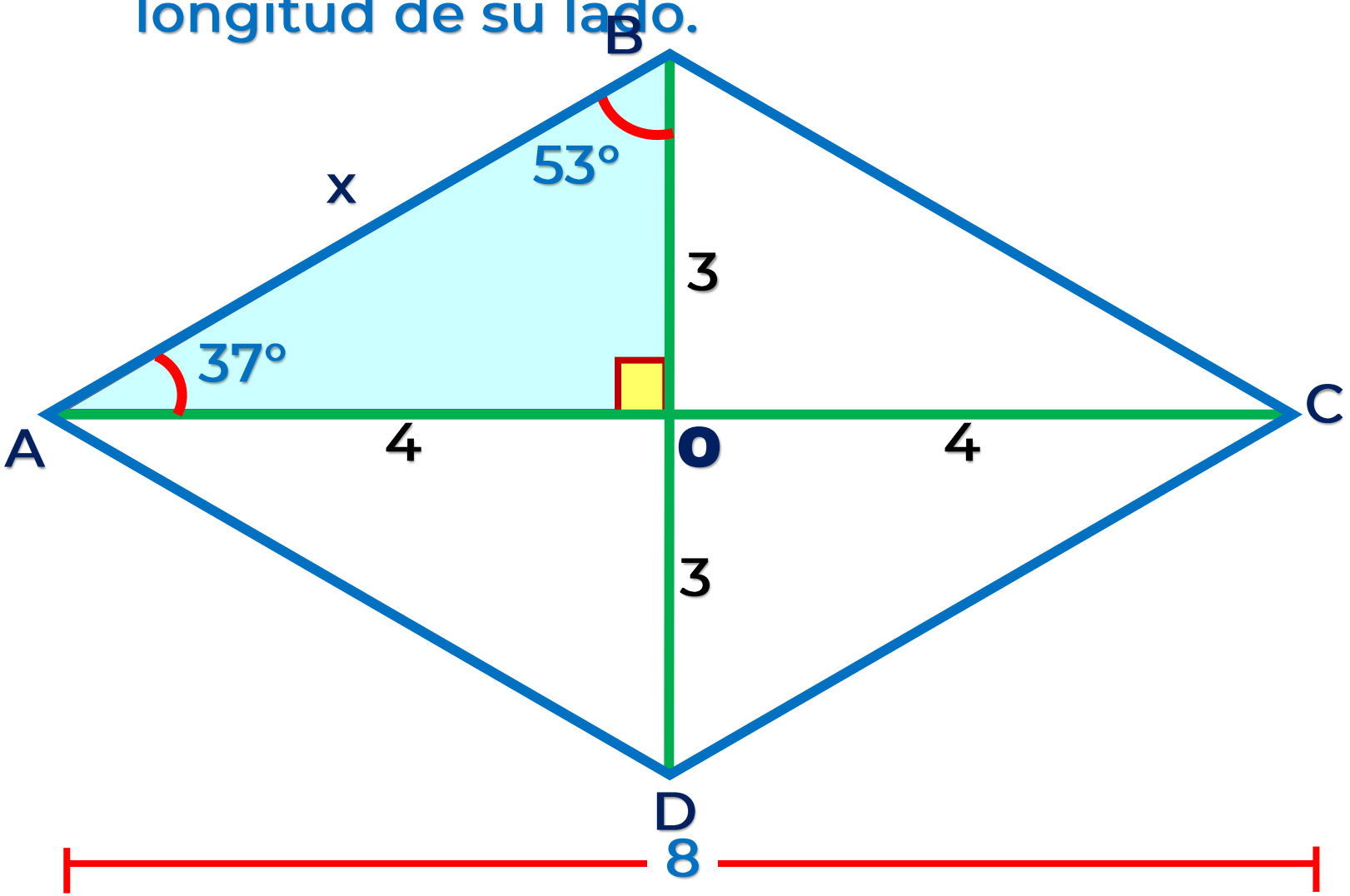
  $AB = AE = 4$

- En el $\overline{AD}$.

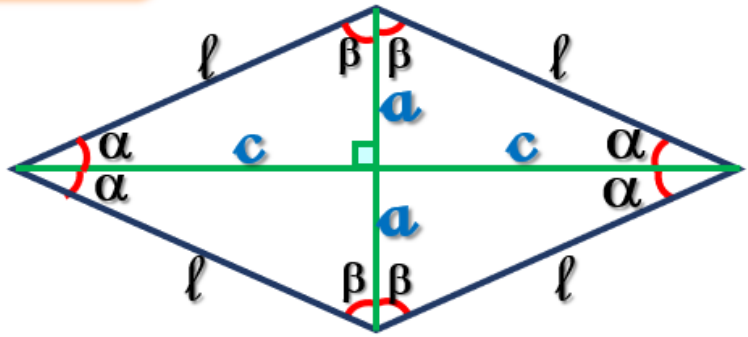
  $4 + x = 6$

  $x = 2$

4. Las diagonales de un rombo miden 6 y 8. Halle la longitud de su lado.



ROMBO



- ▱ ABCD : Rombo

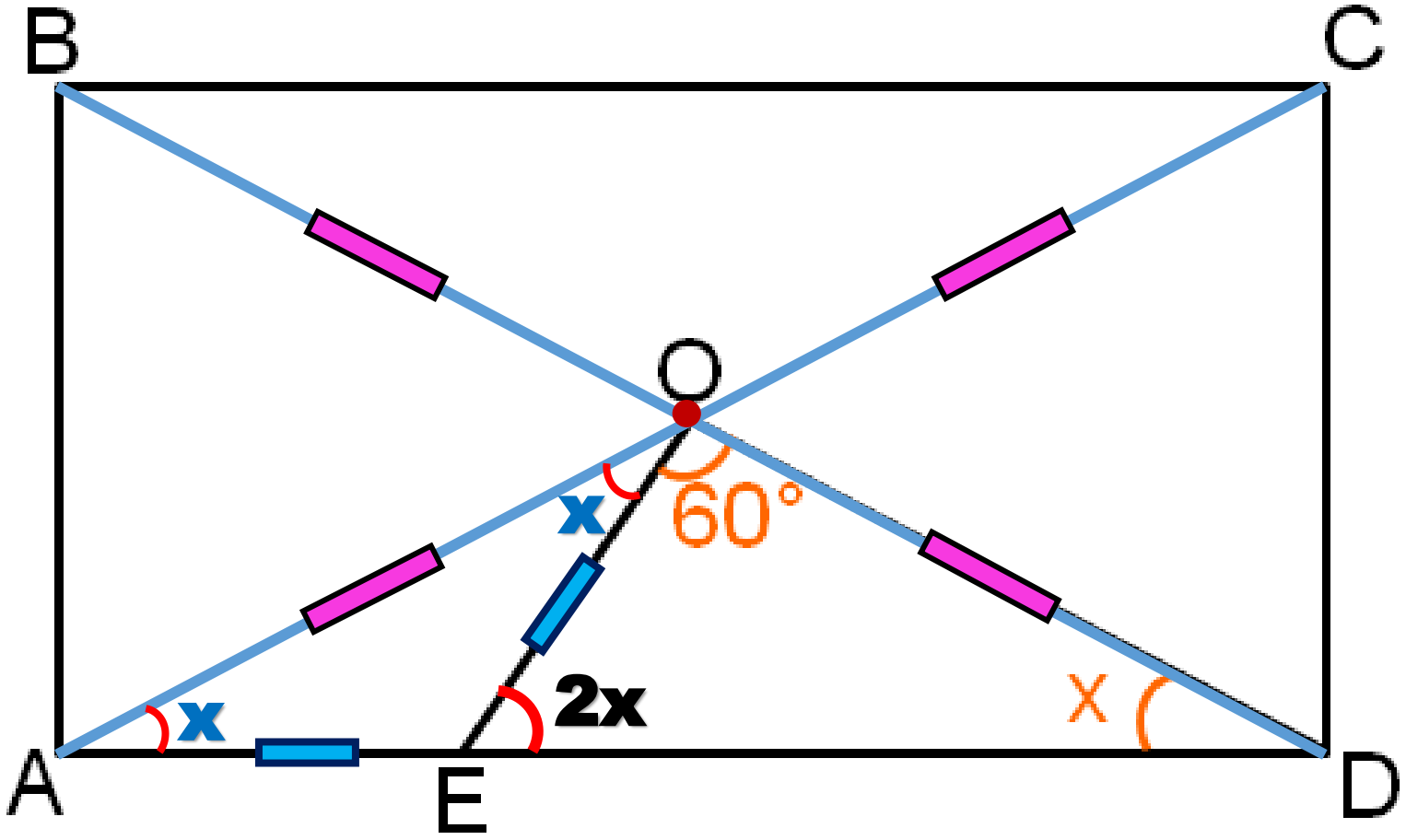
  AO = OC = 4

  BO = OD = 3

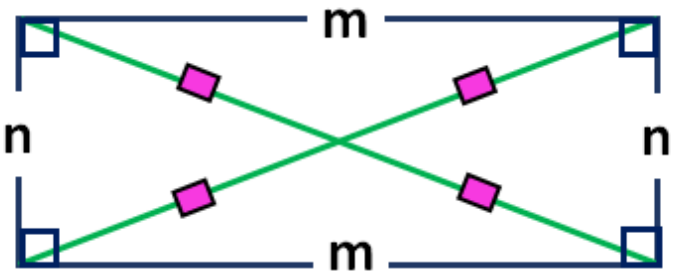
- ΔABO : Notable de 37° y 53°

➡ **x = 5**

5. ABCD es un rectángulo de centro O. Si AE = EO, calcule x.



Rectángulo



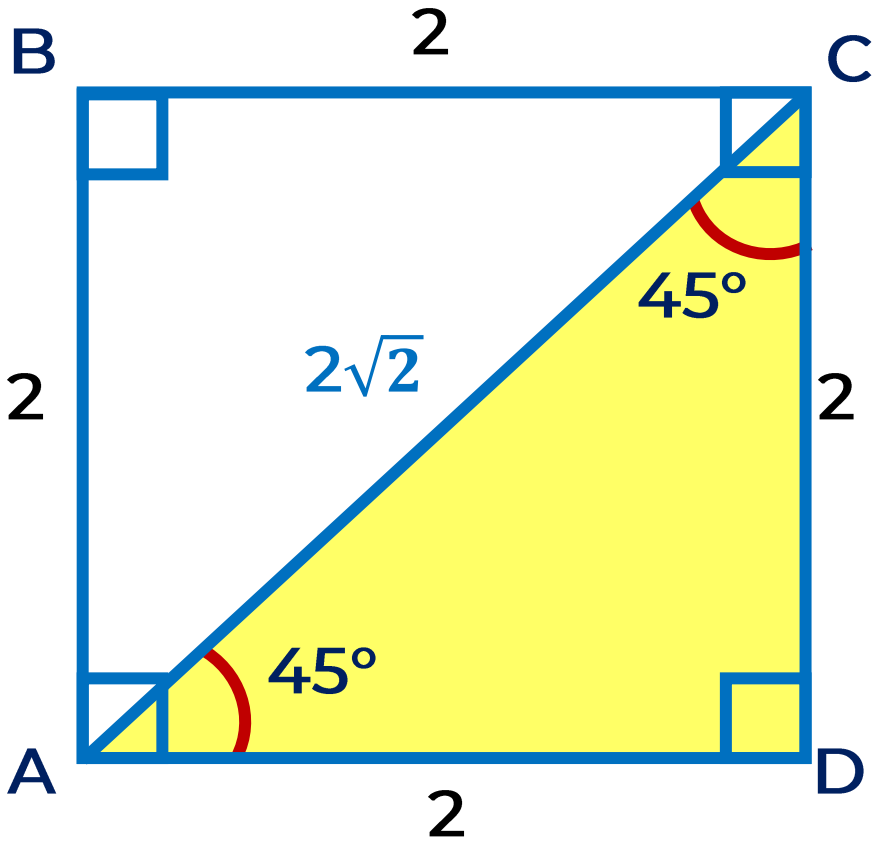
- $\triangle AOD$: ISÓSCELES
- $\triangle AOE$: ISÓSCELES
- $\triangle EOD$

$2x + 60° + x = 180°$

$3x = 120°$

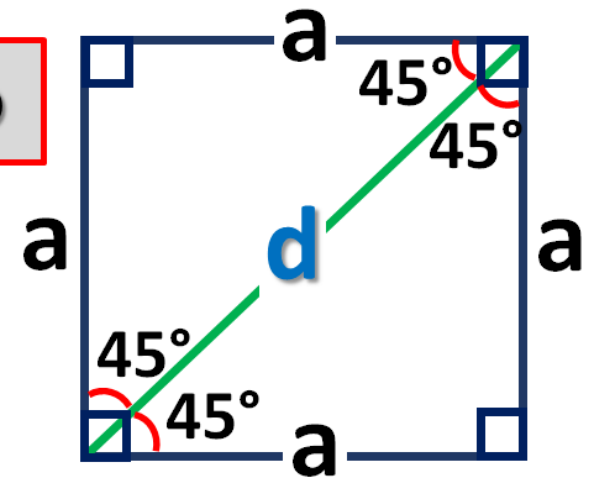
$x = 40°$

6. La diagonal de un cuadrado mide $2\sqrt{2}$. Calcule su perímetro.



Cuadrado

$d = a\sqrt{2}$

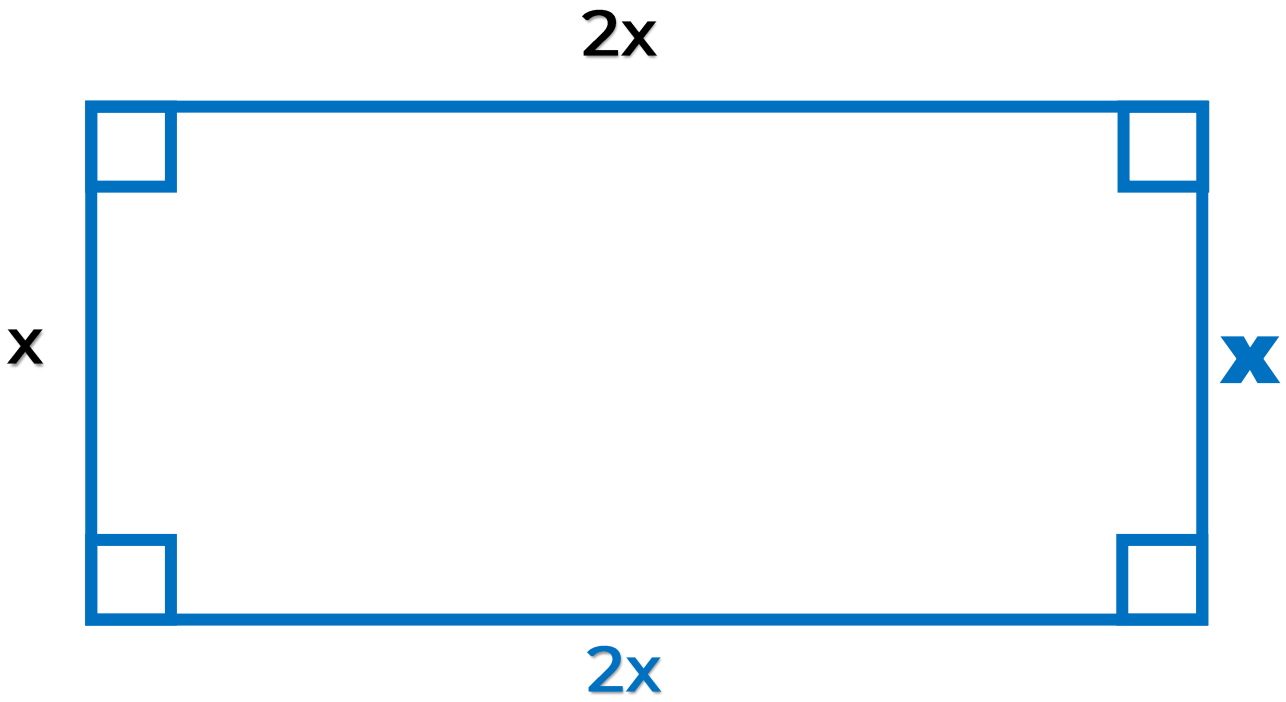


$2p_{\square} = 2 + 2 + 2 + 2$

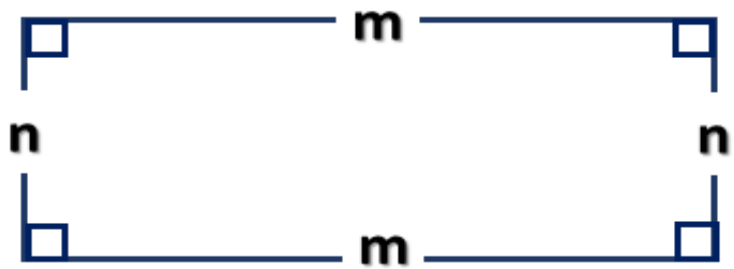
$2p_{\square} = 4(2)$

$2p_{\square} = 8$

7. Se tiene un rectángulo de perímetro 18. Halle el valor de x.



Rectángulo



Por dato

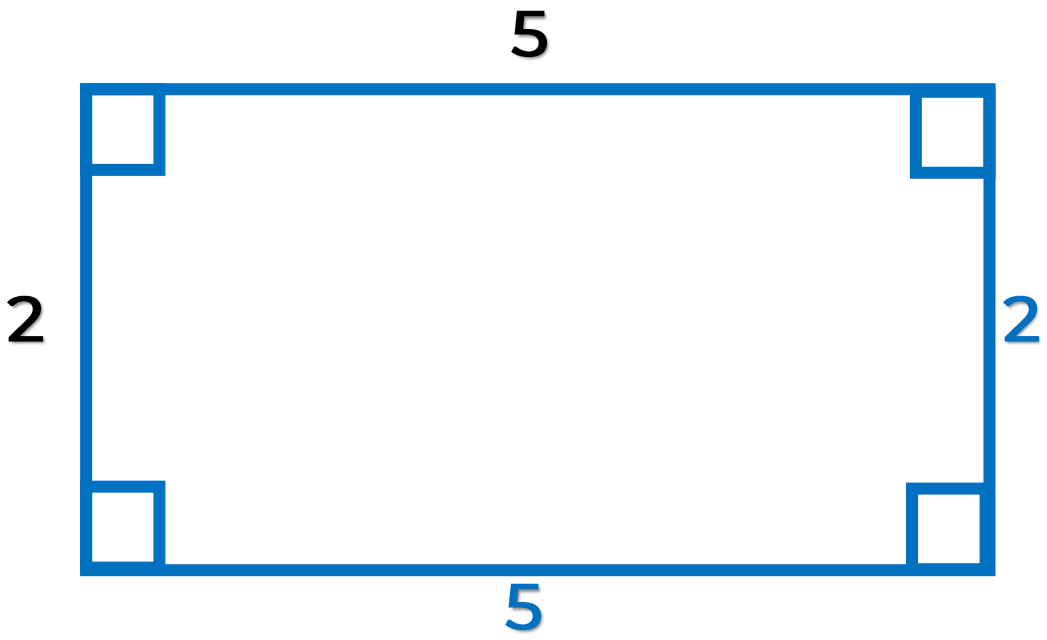
$2p_{\square} = 18$

$x + 2x + x + 2x = 18$

$6x = 18$

$x = 3$

8. Pedro corre todos los días 6 vueltas alrededor de una losa deportiva rectangular de dimensiones 5m y 2m cercana a su casa. ¿Cuantos metros recorre Pedro diariamente?.



En el rectángulo ABCD:

$2p_{\square} = 2 + 5 + 2 + 5$

$2p_{\square} = 14m$

1 vuelta ——— 14m

6 vueltas ——— x

$x = 6(14)$

$x = 84m$