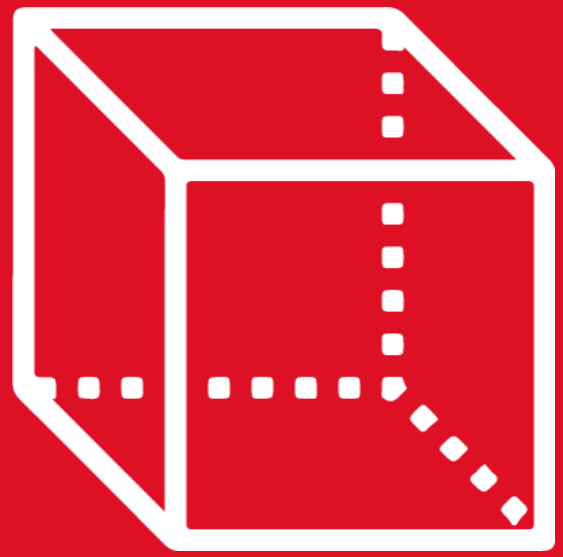
GEOMETRÍA

1st
SECONDARY

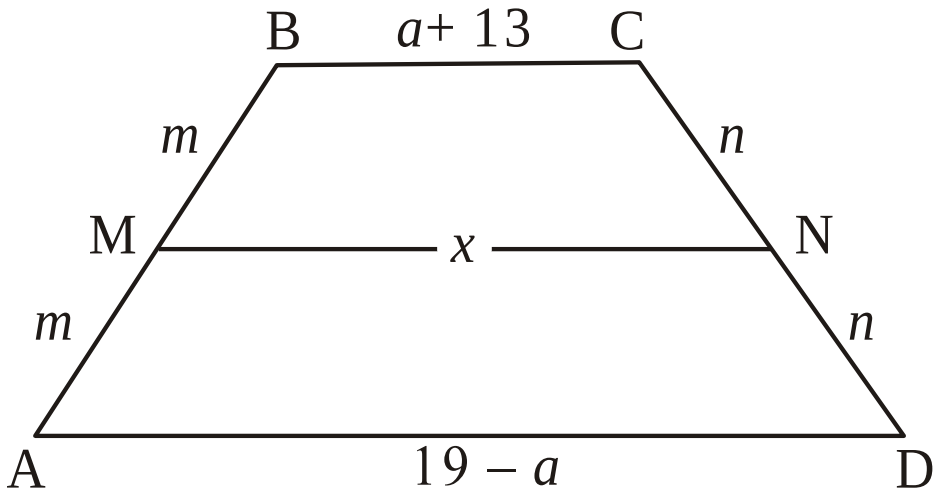


Asesoría

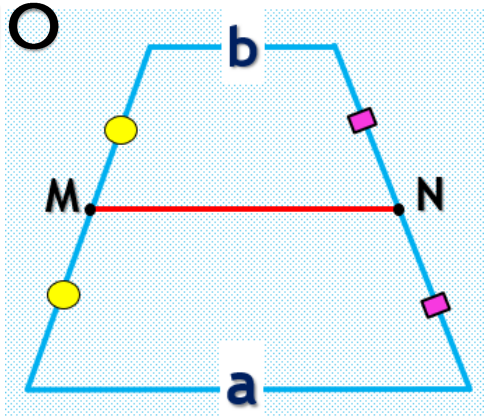
SACO OLIVEROS

1. Si ABCD es un trapecio $\overline{BC} \parallel \overline{AD}$, Calcular la longitud de la mediana.

Nos piden: La mediana MN



$\overline{MN}$ BASE MEDIA DEL TRAPECIO



$$MN = \frac{a+b}{2}$$

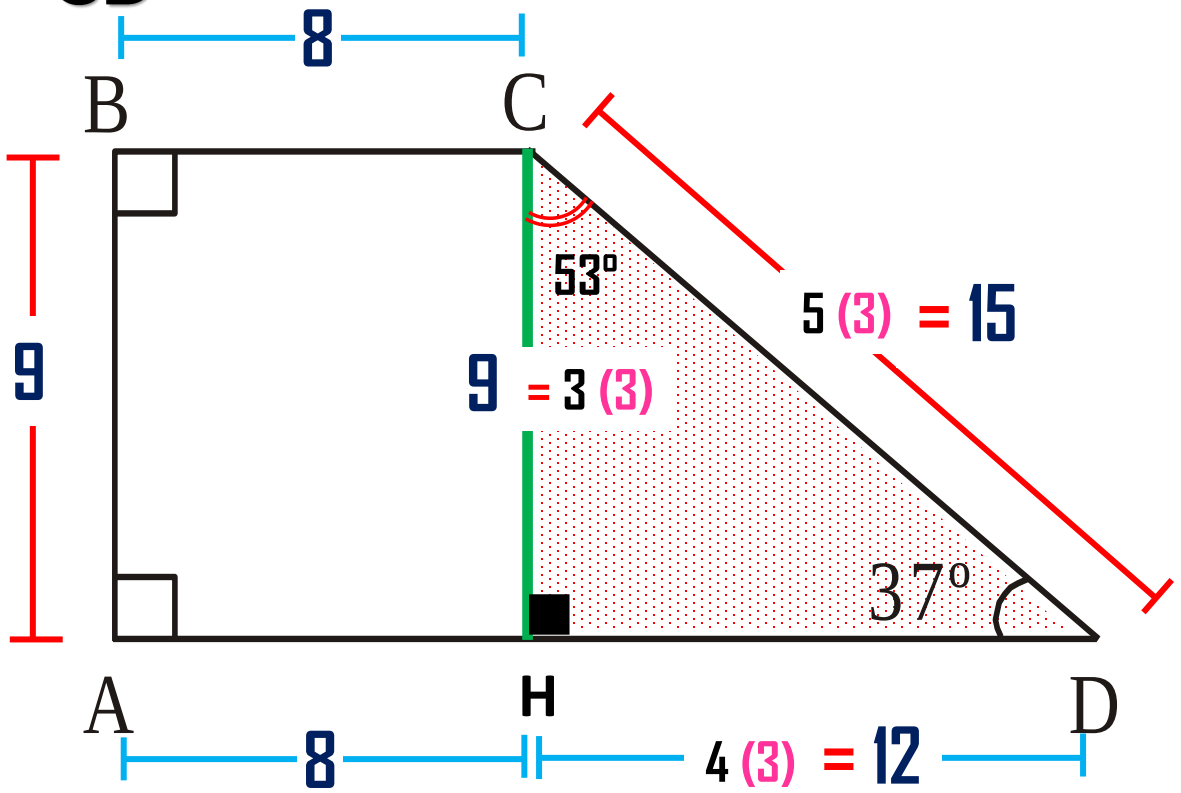
$$x = \frac{a + 13 + 19 - a}{2}$$

$$x = \frac{32}{2}$$

$$x = 16$$

2.En el trapecio rectángulo ABCD es un trapecio $\overline{BC}$ // $\overline{AD}$, AB= 9, BC= 8. Hallar: (AD+CD)

Nos piden: AD + CD



Se traza la altura $\overline{CH}$

En el rectángulo ABCH

AB = CH = 9
BC = AH = 8

En el ⊿ CHD (Notable 37° - 53)

HD = 12
CD = 15

Además:

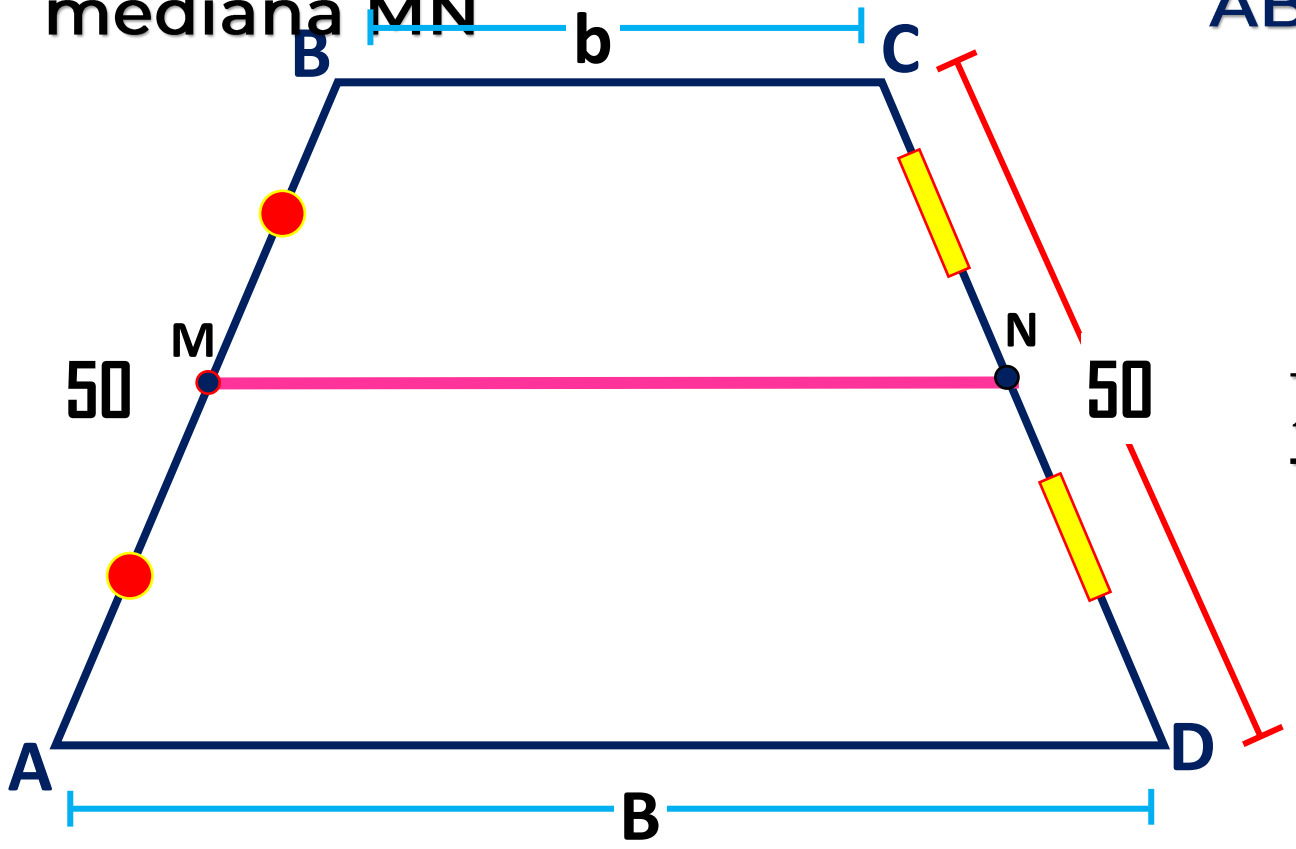
AD = AH + HD

AD = 8 + 12 = 20

AD + CD = 20 + 15 = 35

3.El perímetro de un trapecio isósceles es de 240, $\overline{BC}$ // $\overline{AD}$. Calcular le medida de la mediana si cada lado no paralelo mide 50.

Nos piden: La mediana MN



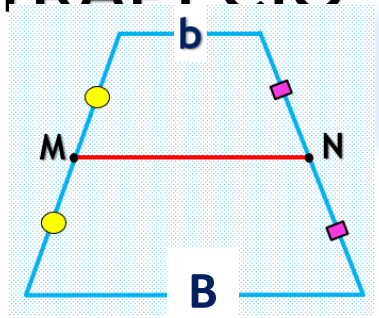
Trapecio ABCD (Isósceles)

(Lados no paralelos) AB = CD = 50

$2p_{\square} = b + 50 + 50 + B = 240$

$b + B = 140$

$\overline{MN}$ BASE MEDIA DEL TRAPECIO



$MN = \frac{B+b}{2}$

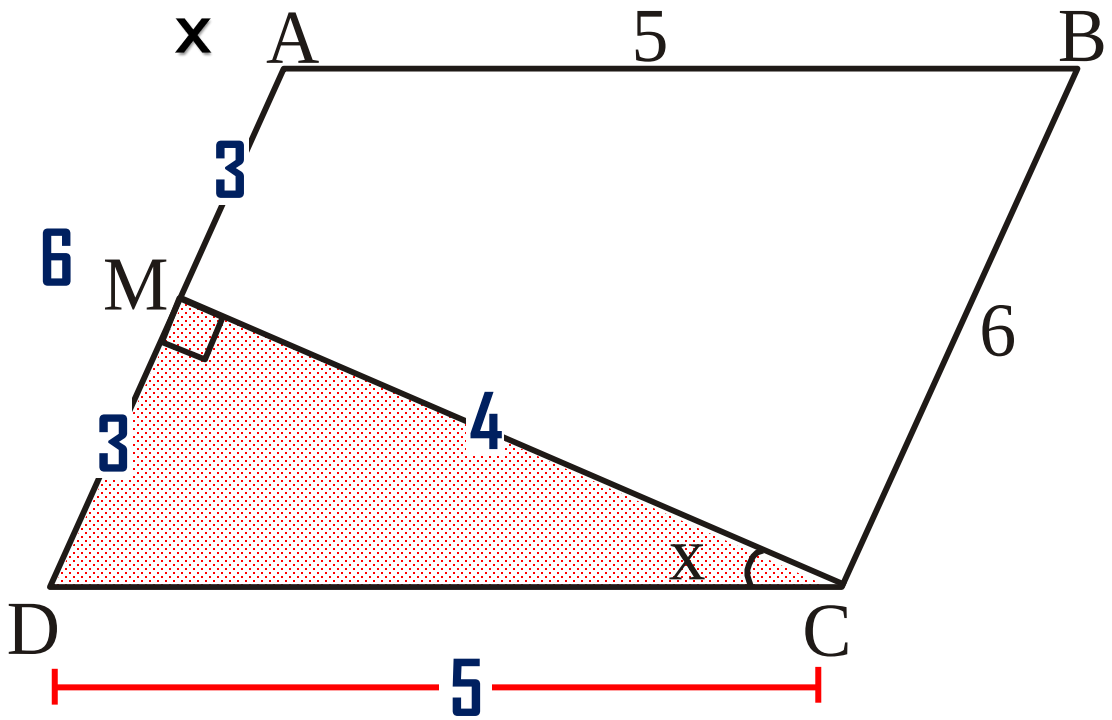
$x = \frac{140}{2}$

$x = 70$

MN = 70

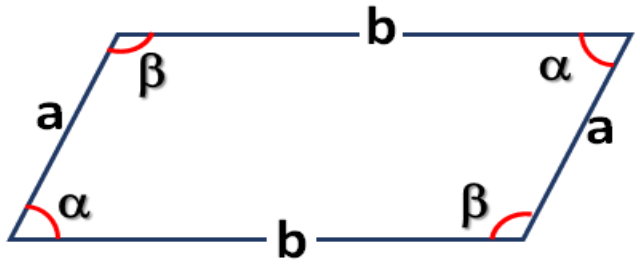
4.En el gráfico: ABCD es un romboide. Calcular x. M es punto medio de $\overline{AD}$

Nos piden: x



Romboide

$\alpha+\beta=180°$



En el paralelogramo ABCD ⇒ $\begin{cases} AB = CD = 5 \\ AD = BC = 6 \end{cases}$

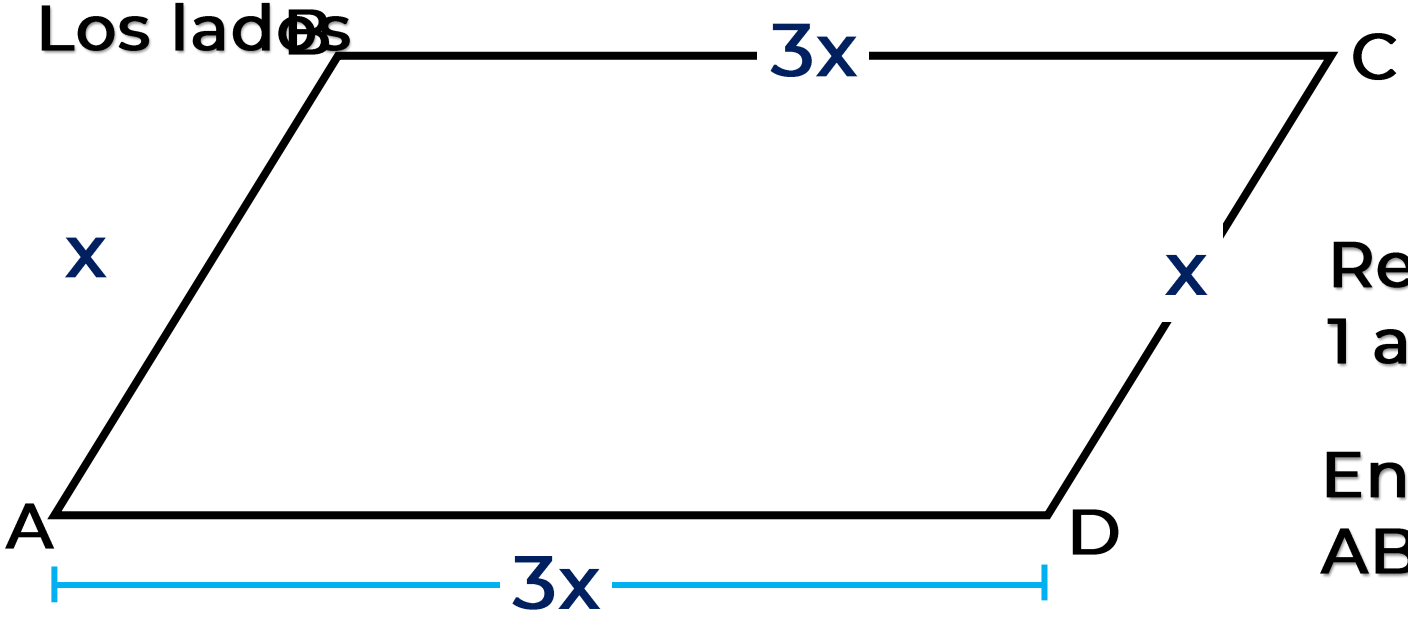
M punto medio de $\overline{AD}$ ⇒ AM = MD = 3

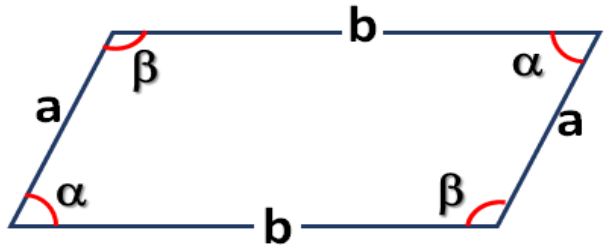
En el $\triangle$ DMC (Notable 37° - 53)

x = 37°

5. El perímetro de un paralelogramo es de 64 cm y dos de sus lados consecutivos están en la relación de 1 a 3 . Cuanto miden los lados

Nos piden:
Los lados





Relación de lados de 1 a 3

AB = x AD = 3x

En el paralelogramo ABCD

AB = CD = x AD = BC = 3x

$2p = x + 3x + x + 3x$

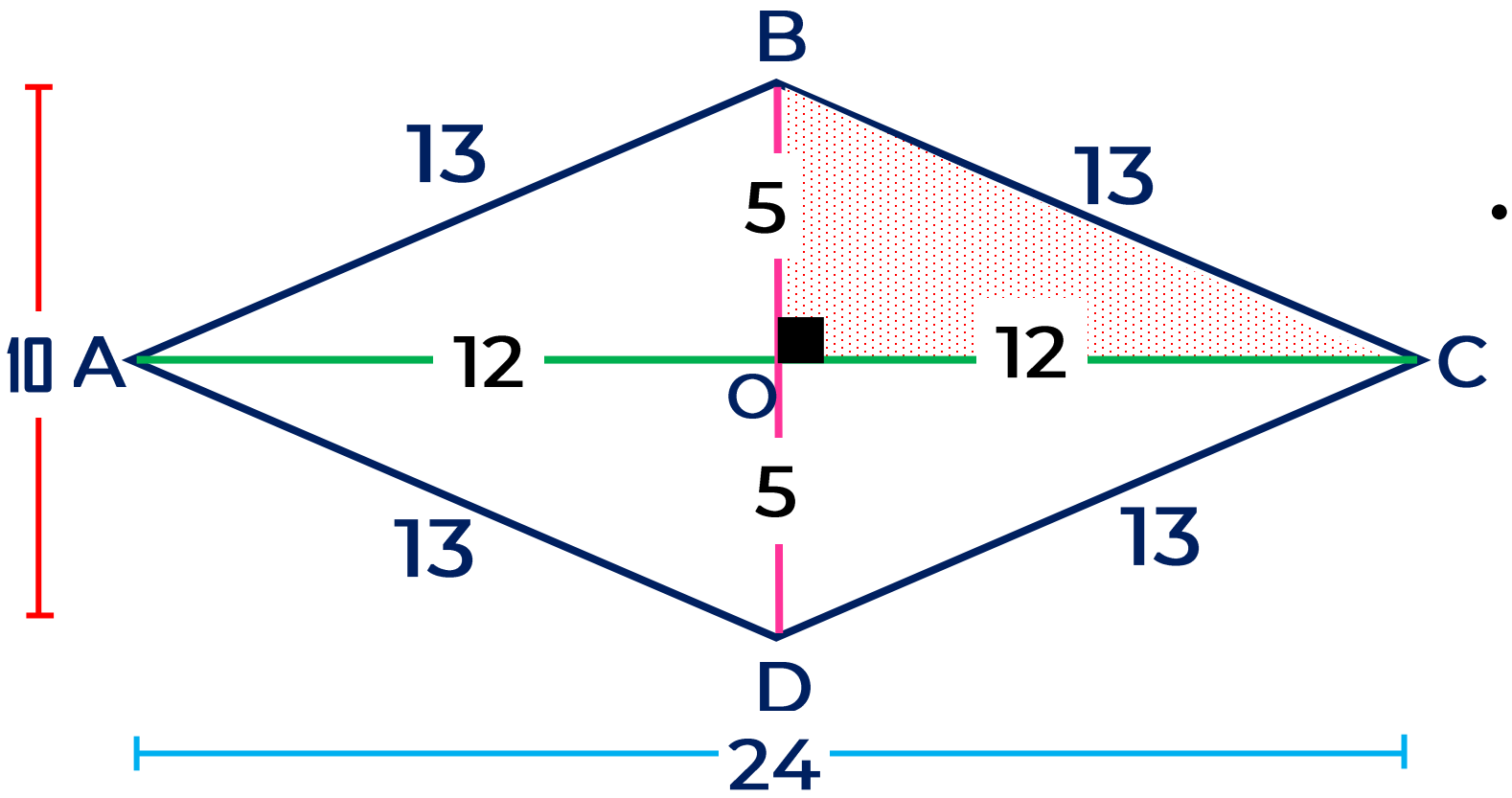
$= 64$ $8x = 64$

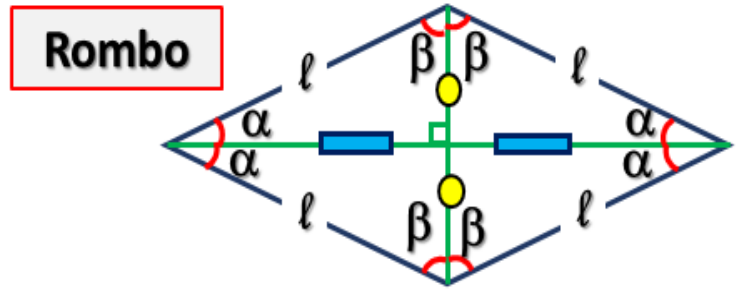
$\frac{8x}{8} = \frac{64}{8}$

Lados: AB = 8 AD = 24

6. Calcular el perímetro de un rombo, si sus diagonales miden 10m y 24m

Nos piden: Perímetro el rombo





- En el rombo

  $A0 = OC = 12$ $BO = OD = 5$

- En el $\triangle$ CHD (Teor. Pitágoras)

  $12^2 + 5^2 = BC^2$

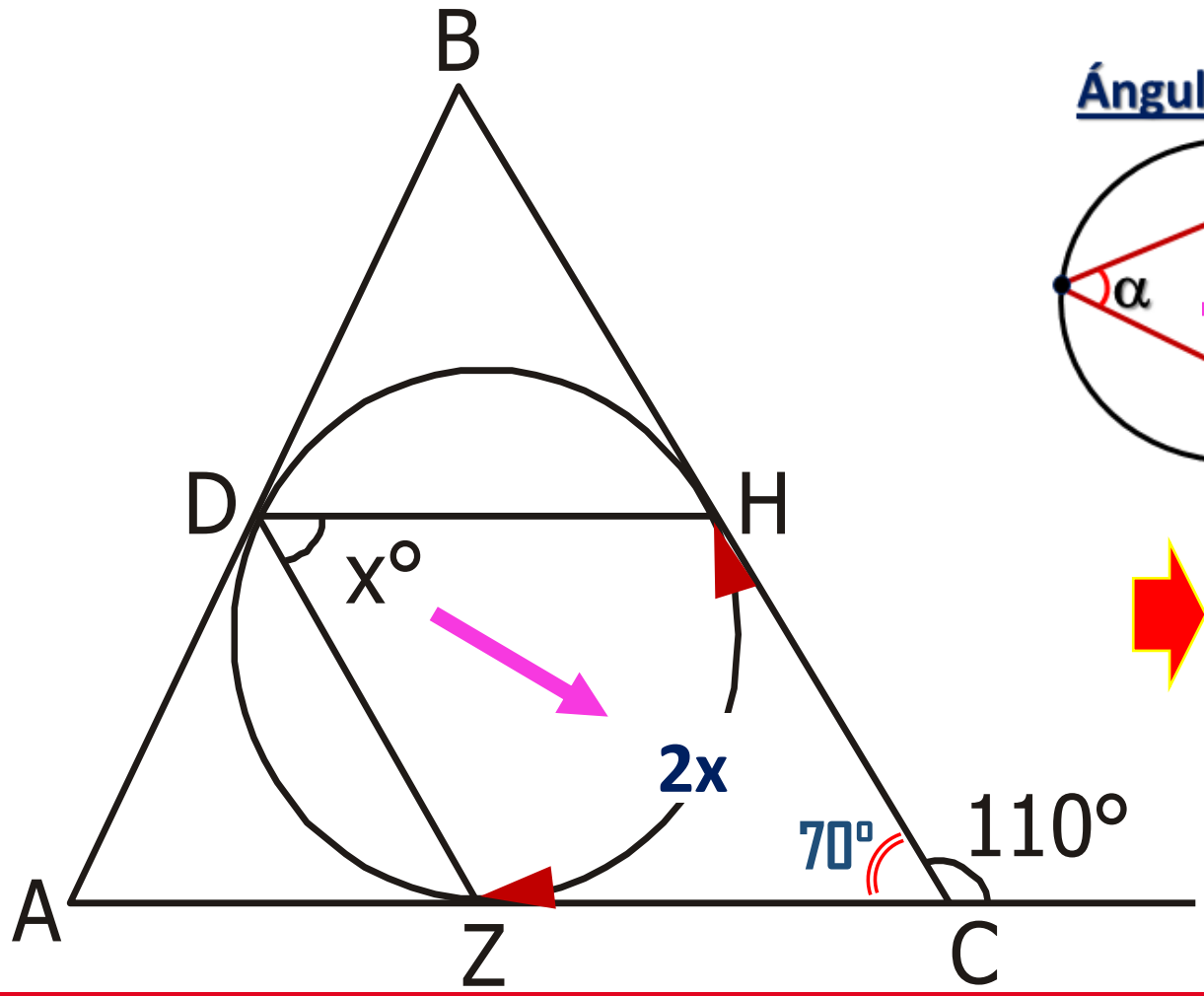
  $13 = BC$

$2p_{\diamond} = 13 + 13 + 13 + 13$

$2p_{\diamond} = 52\ m$

7.En el grafico, D, H, Z son puntos de tangencia, halle le valor de x.

Nos piden: x

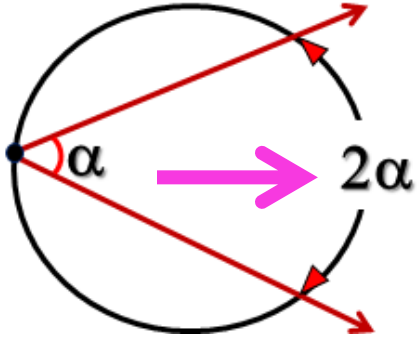


En el vértice C

$m< C + 110° = 180°$

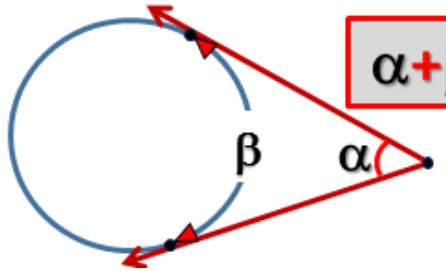
$m< C = 70°$

Ángulo inscrito



$m\overset{\frown}{HZ} = 2x$

TEOREMA



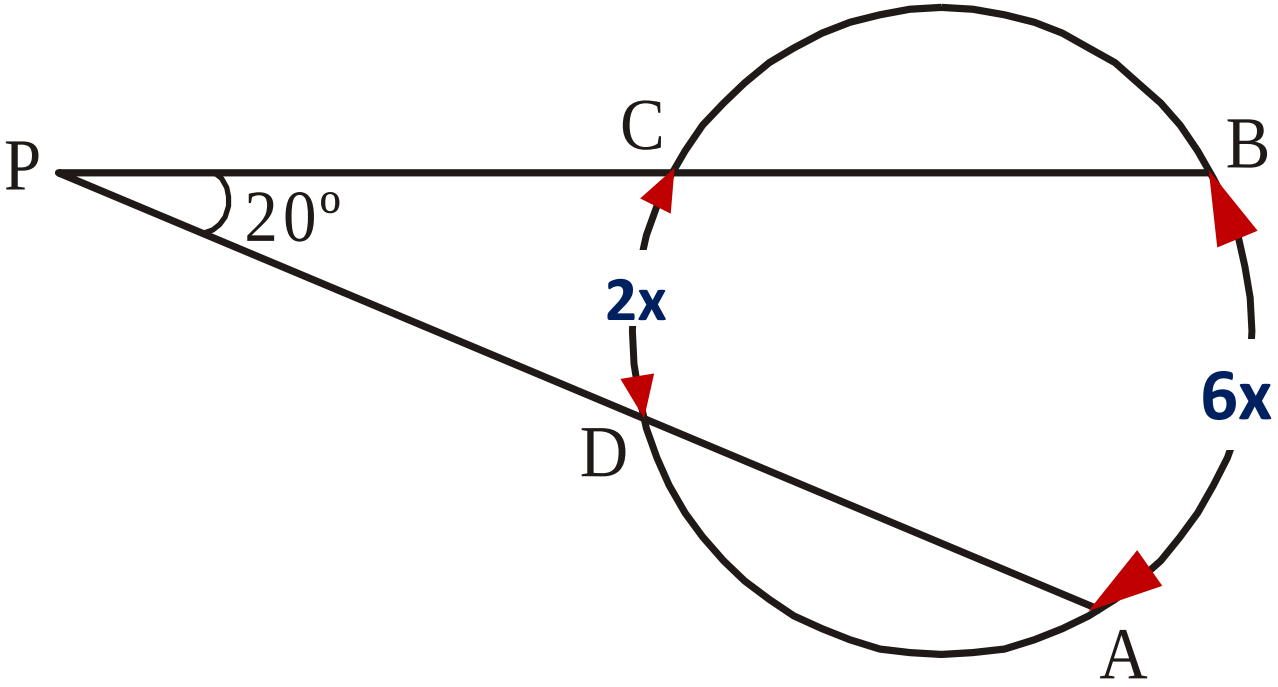
$2x + 70° = 180°$

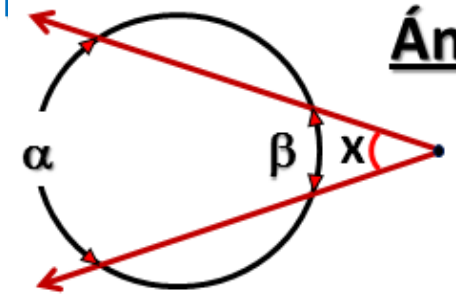
$2x = 110°$

$x = 55°$

8.Del gráfico, calcular x, si $m\overset{\frown}{AB} = 6x$ y $m\overset{\frown}{CD} = 2x$

Nos piden: x





Ángulo exterior

$$x = \frac{\alpha - \beta}{2}$$

$$20° = \frac{6x - 2x}{2}$$

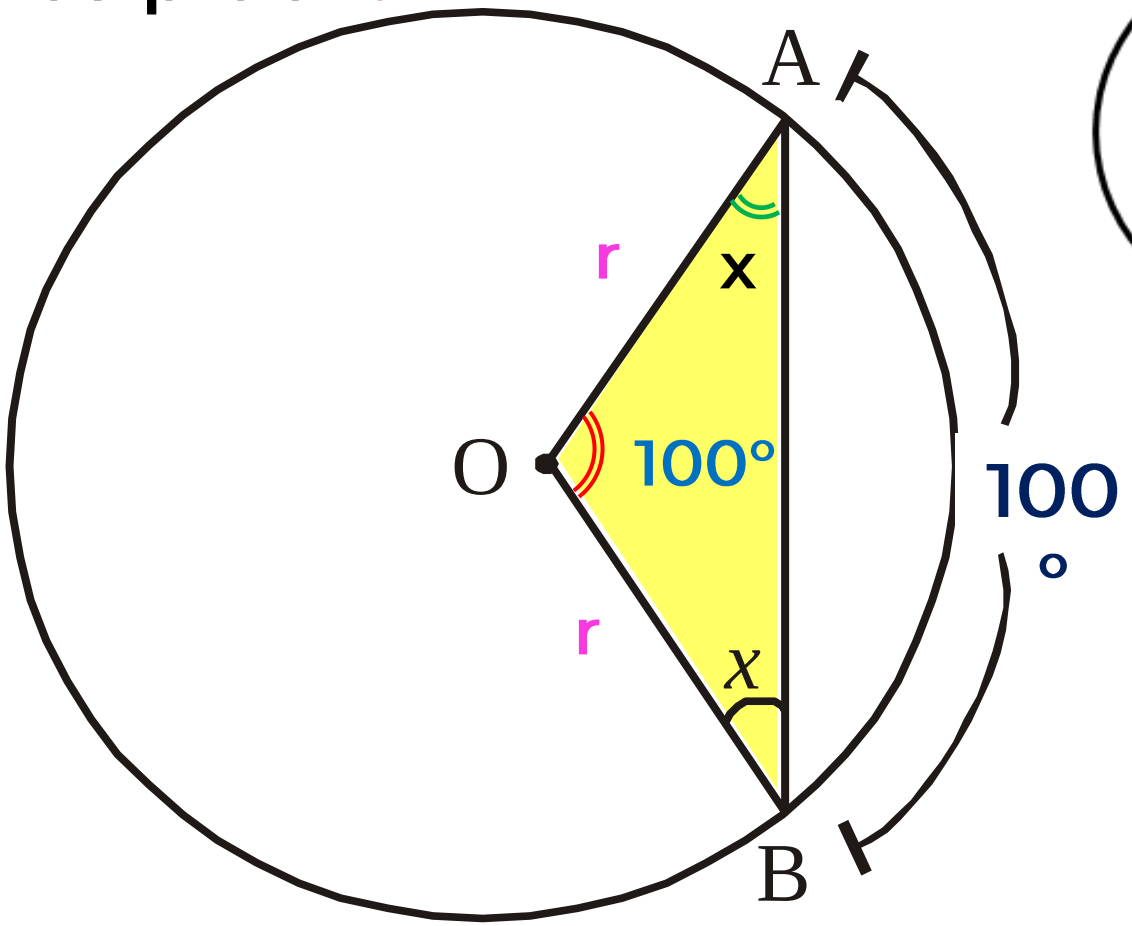
$$20° = \frac{4x}{2}$$

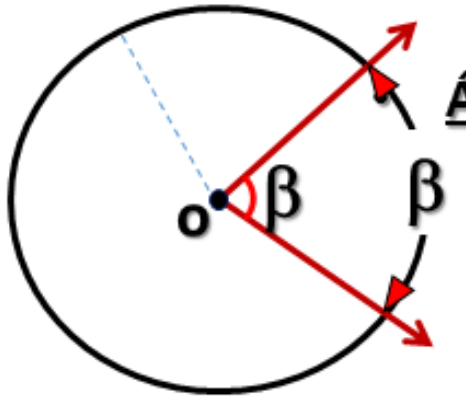
$$20° = 2x$$

$$x = 10°$$

9.En el gráfico, O es el centro. Halle el valor de x

Nos piden: x





$m \measuredangle AOB = 100°$

- OA = OB = r

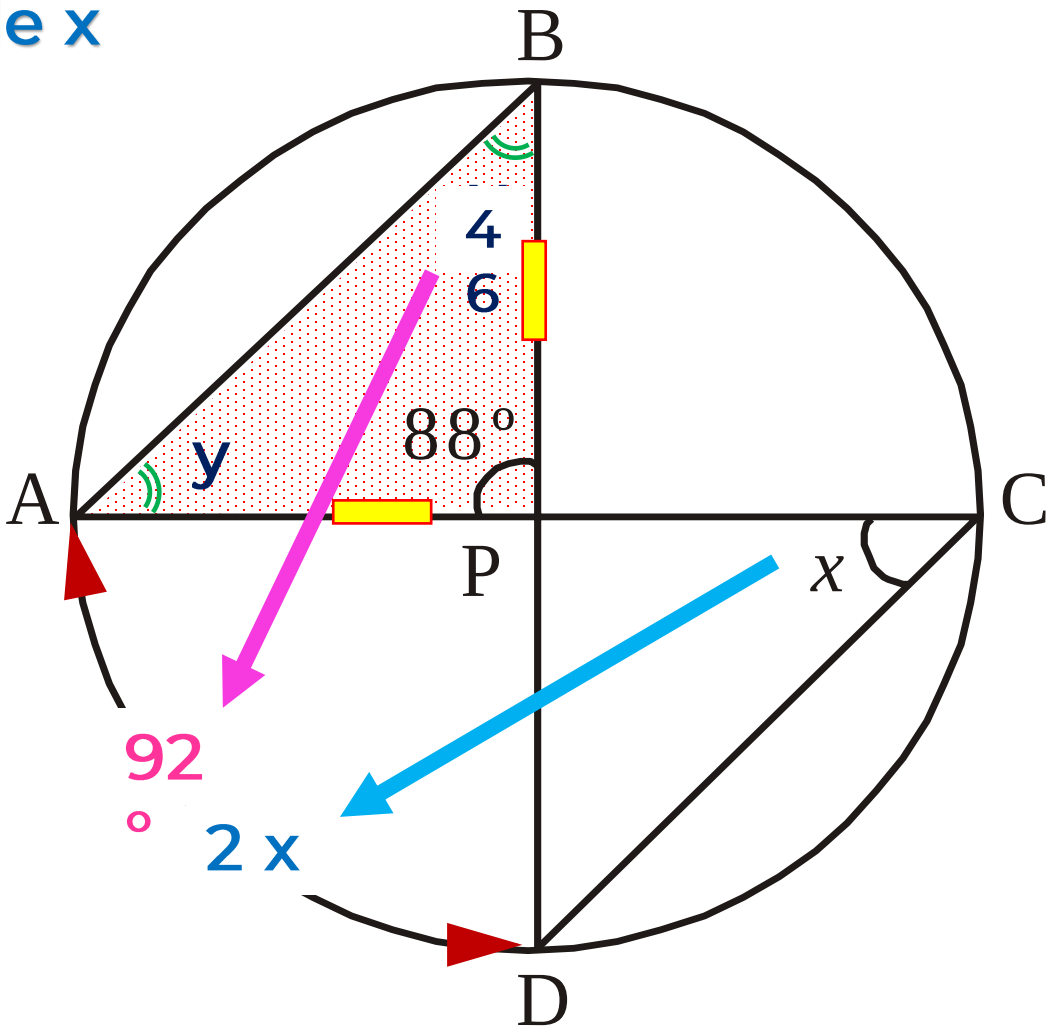
El Δ AOB (Isósceles)

$x + 100° + x = 180°$

$2x = 80°$

$x = 40°$

10.En la circunferencia, AP = BP. Halle el valor de x



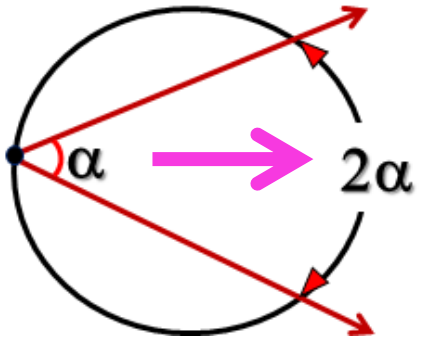
El Δ APB (Isósceles)

$y + 88° + y = 180°$

$2y = 92°$

$y = 46°$

Ángulo inscrito



$m\overset{\frown}{AD} = 92°$

$m\overset{\frown}{AD} = 2x$

Igualando $\overset{\frown}{AD}$

$2x = 92°$

$x = 46°$