

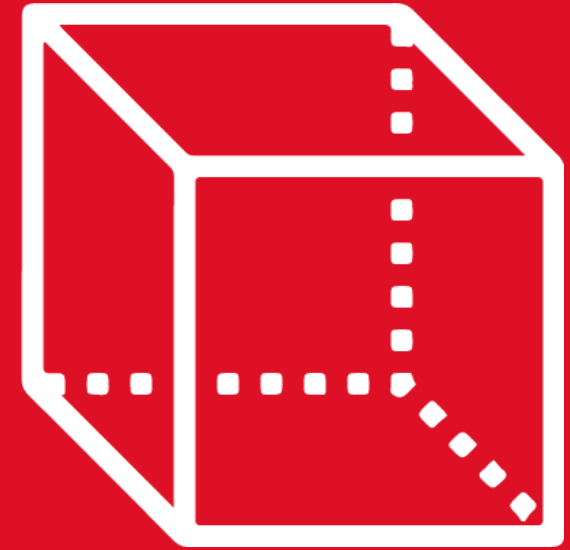
GEOMETRÍA

Tomo 3

2st

SECONDARY

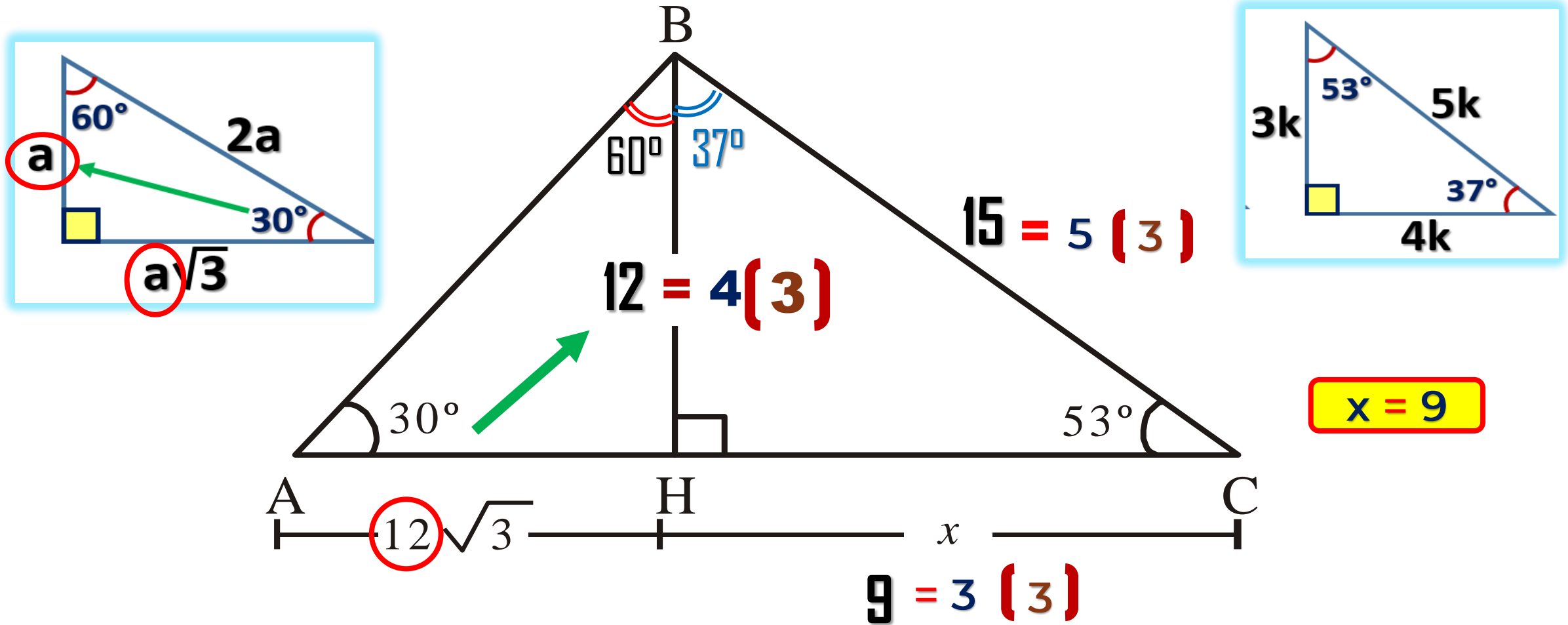
Retroalimentación



 **SACO OLIVEROS**

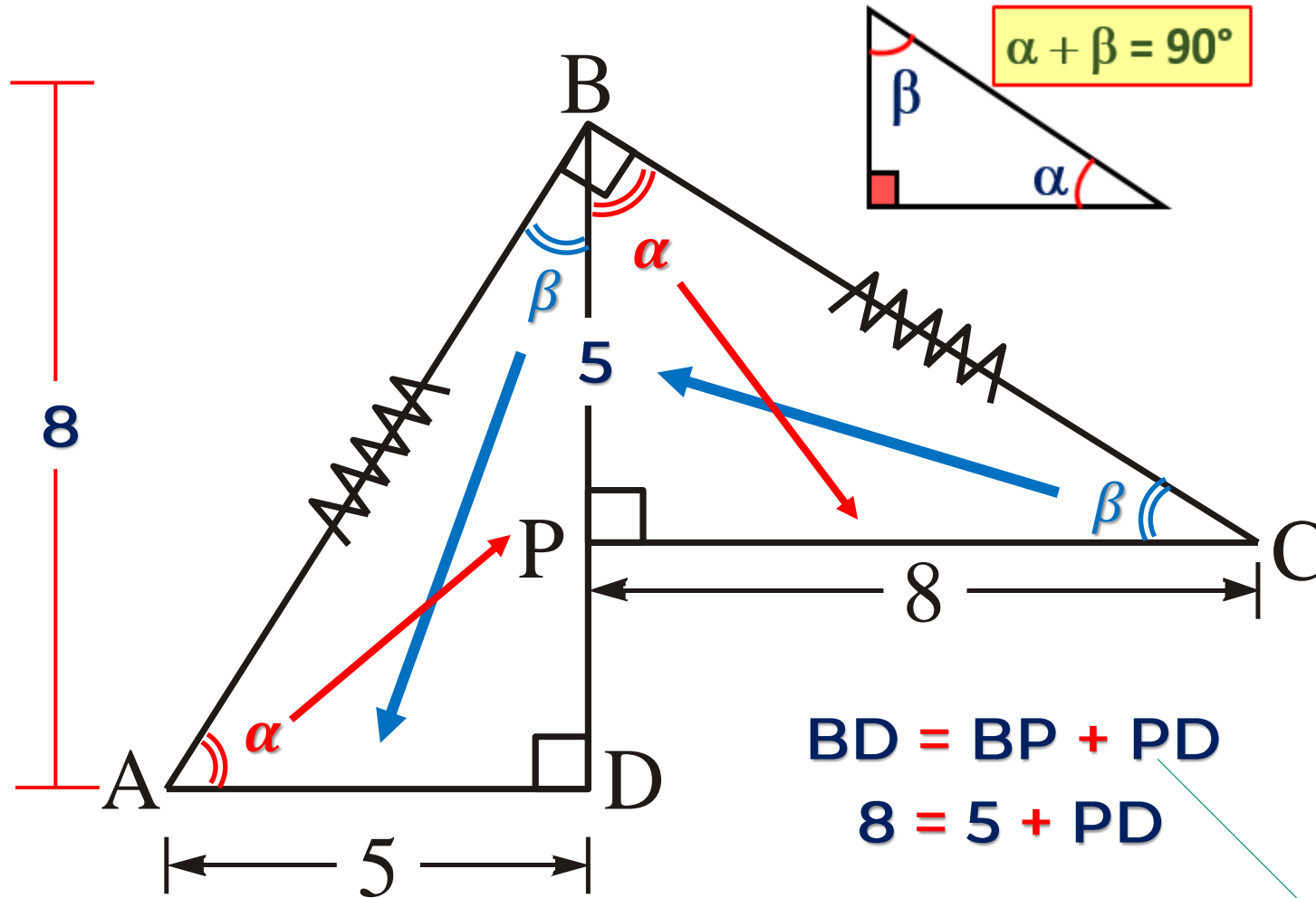


1. En la figura, calcular x .





2. En el gráfico, $PC = 8$, $AD = 5$. Hallar PD



$$\triangle ADB \cong \triangle BPC$$

[A L A]

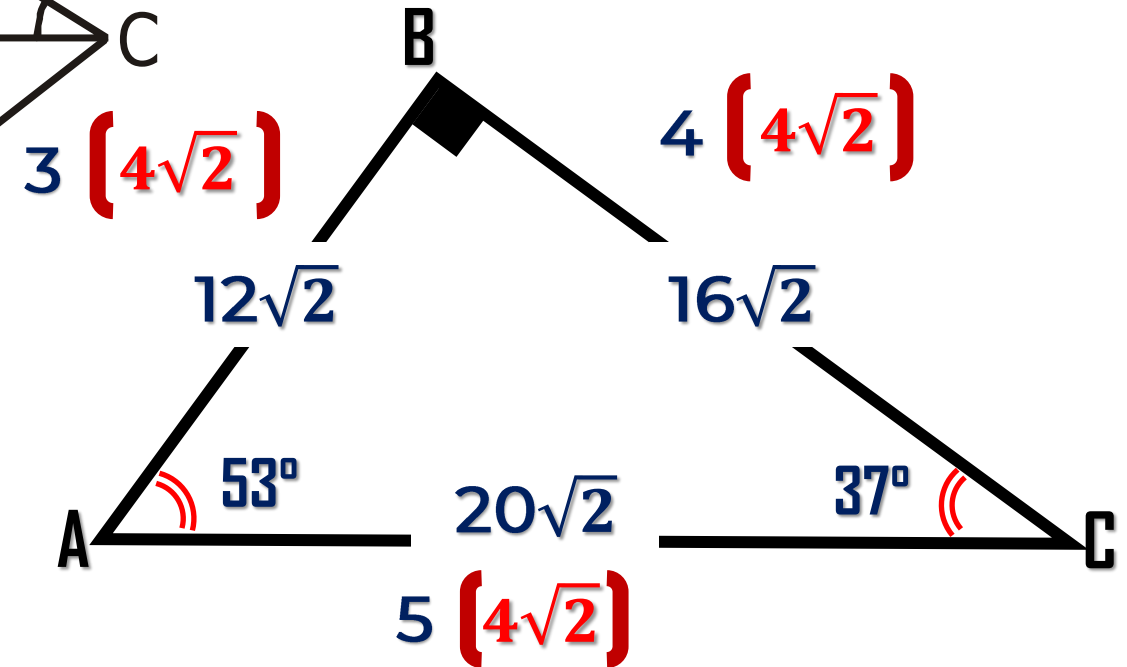
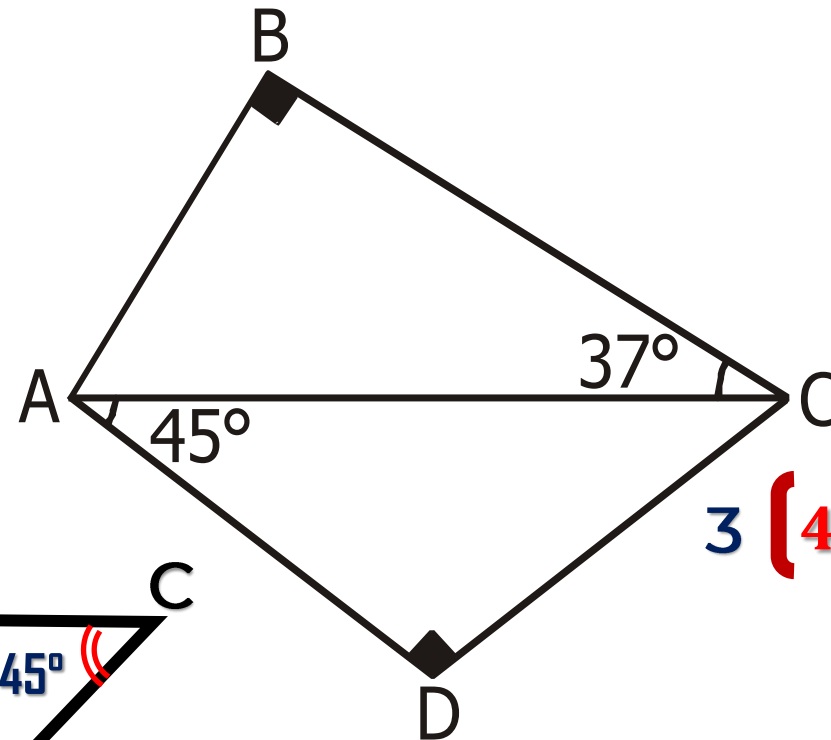
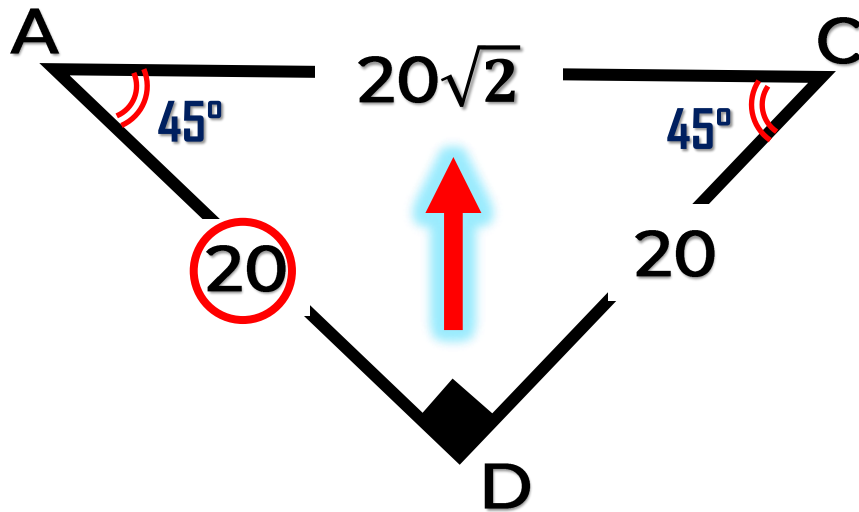
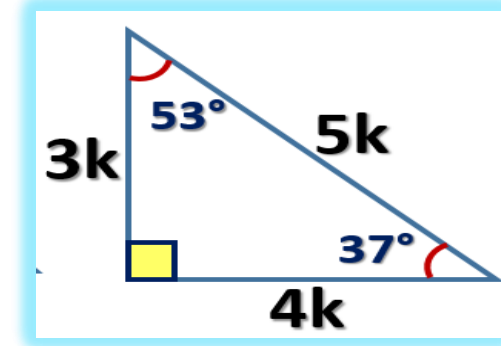
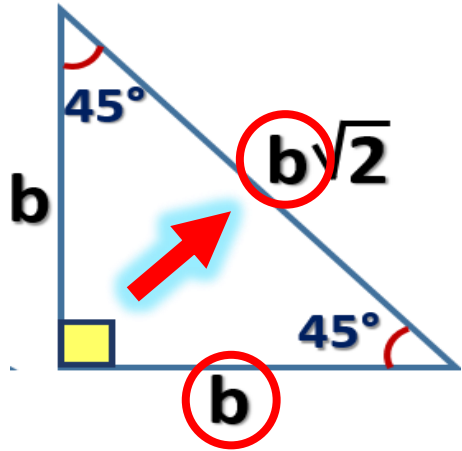
$$\Rightarrow \begin{cases} AD = BP = 5 \\ PC = BD = 8 \end{cases}$$

$$PD = 3$$

$$\begin{aligned} BD &= BP + PD \\ 8 &= 5 + PD \end{aligned}$$



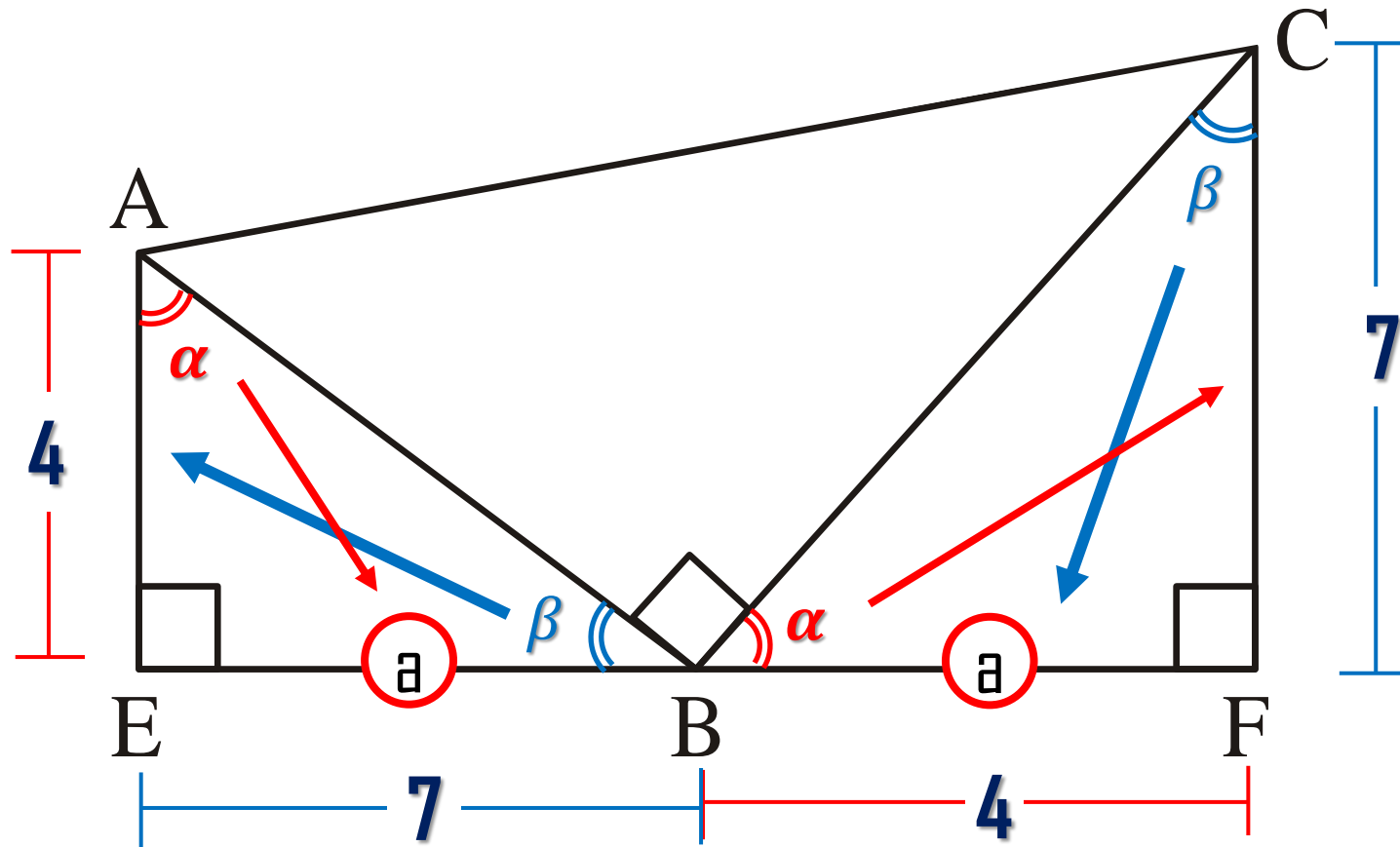
3. Si: $AD = 20$, calcular BC .



$BC = 16\sqrt{2}$



4. En el gráfico , $AB = BC$, $AE = 4$ y $CF = 7$. Calcular EF .



$$\triangle AEB \cong \triangle BFC$$

[A L A]

$$\Rightarrow \begin{cases} AE = BF = 4 \\ CF = EB = 7 \end{cases}$$

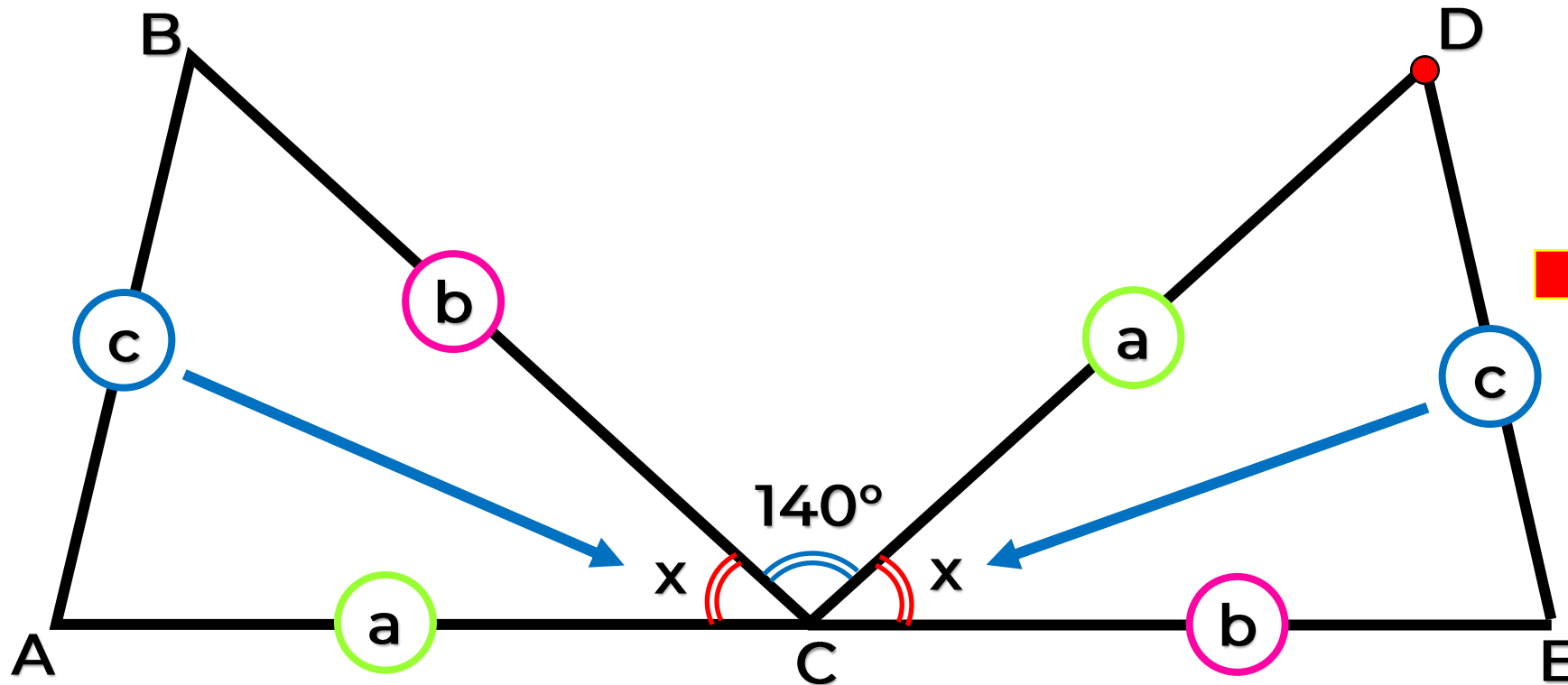
$$EF = EB + BF$$

$$EF = 7 + 4$$

$$EF = 11$$



5. En un triángulo ABC se prolonga \overline{AC} hasta E, se ubica el punto D exterior y relativo a BC, $AC=CD$, $AB=DE$, $BC=CE$ y $m\angle BCD=140^\circ$. Halle $m\angle DCE$.



$$\triangle ABC \cong \triangle DEC$$

[L L L]

En el vértice C

$$x + 140^\circ + x = 180^\circ$$

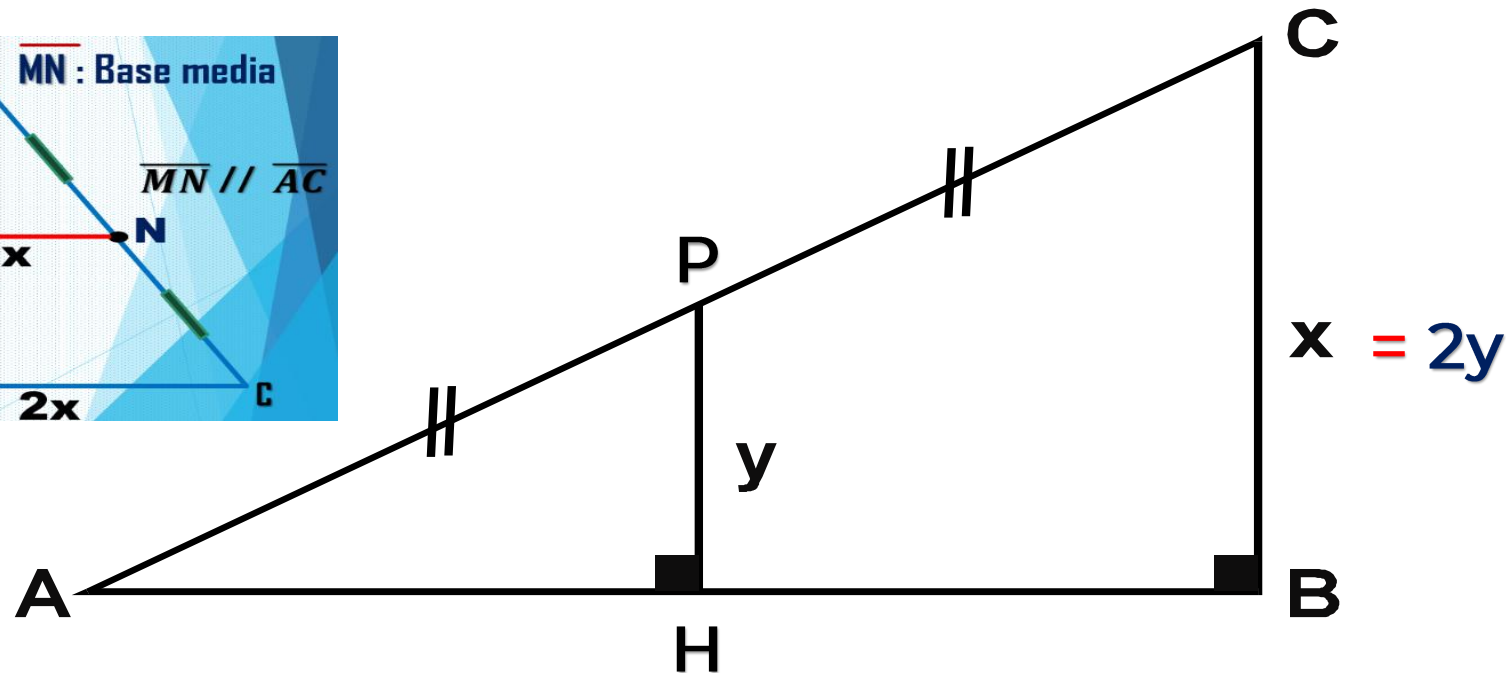
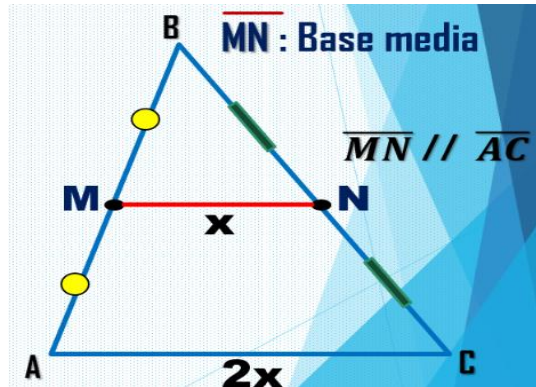
$$x = 20^\circ$$



6. Si $x + y = 24$, halle el valor de x .

$$\overline{PH} \parallel \overline{CB}$$

(Base media)



DATO:

$$\underbrace{x + y}_{\text{Dato}} = 24$$

$$2y + y = 24$$

$$3y = 24$$

$$y = 8$$

$$x = 2(8)$$

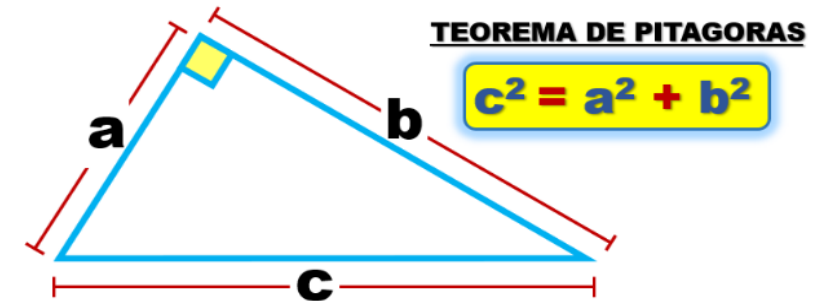
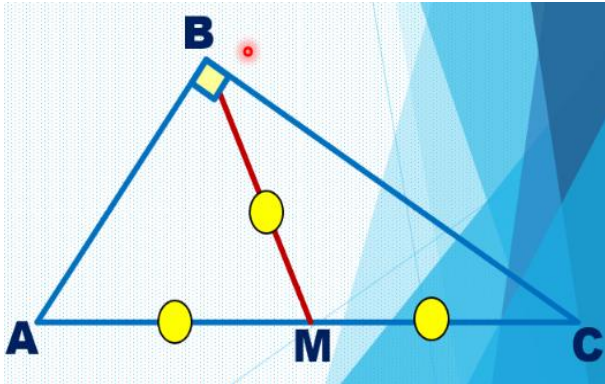
$$x = 16$$



7. En el gráfico , Halle le valor de PQ

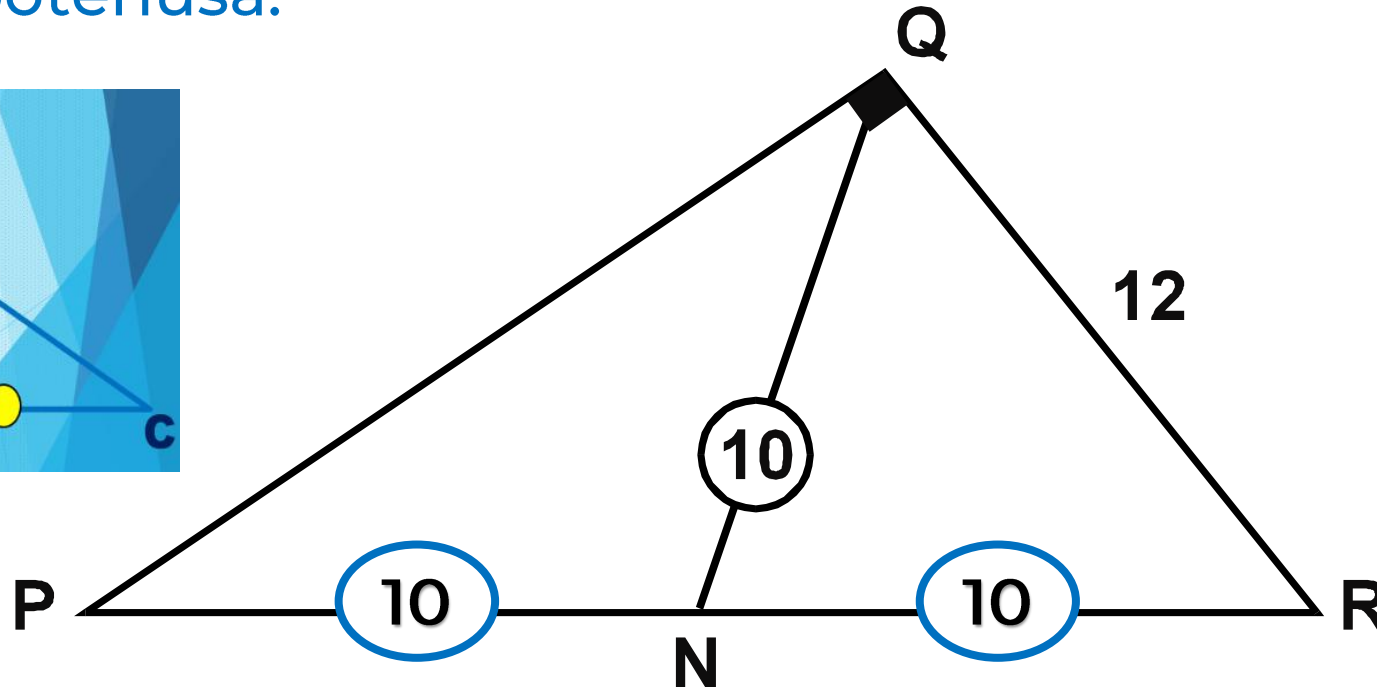
N punto medio de PR

BM : Mediana relativa a la hipotenusa.



TEOREMA DE PITAGORAS

$$c^2 = a^2 + b^2$$



$$PR^2 = PQ^2 + QR^2$$

$$20^2 = PQ^2 + 12^2$$

$$PQ^2 = 400 - 144$$

$$PQ^2 = 256$$

$$PQ = 16$$

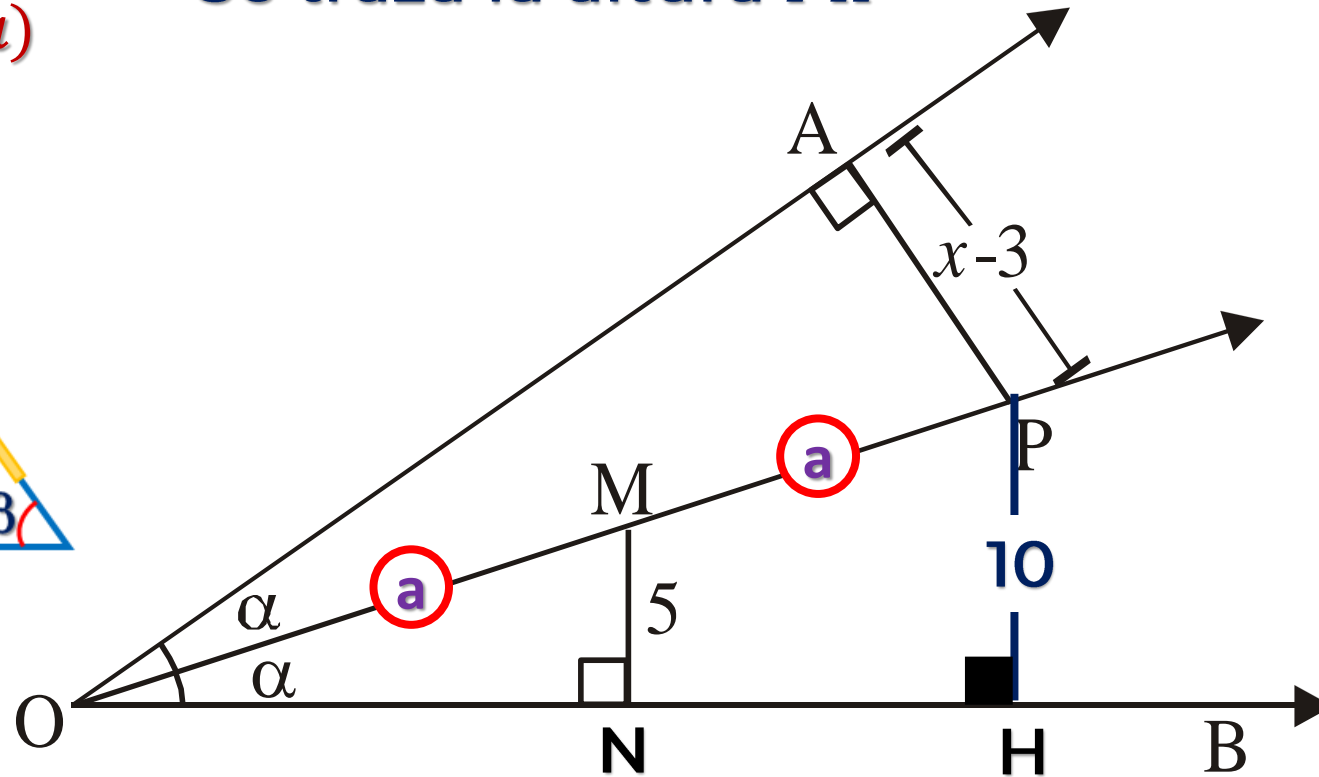
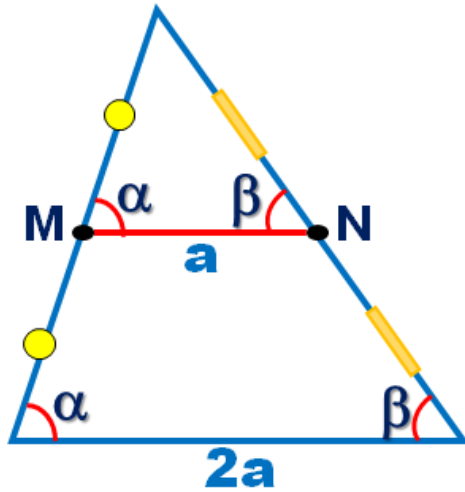


8. Si: $OM=MP$, Calcule el valor de x .

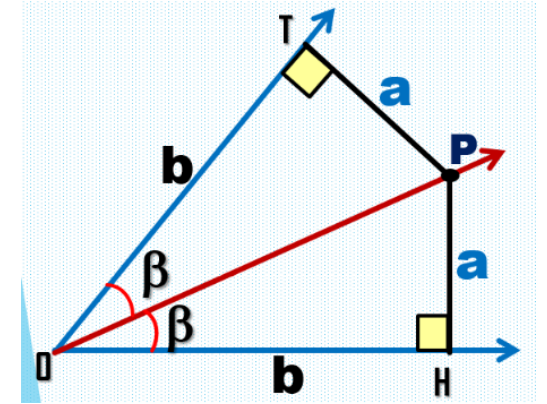
$$\overline{PH} \parallel \overline{MN}$$

(Base media)

Se traza la altura \overline{PH}



TEOREMA DE LA BISECTRIZ



$$AP = PH$$

$$x - 3 = 10$$

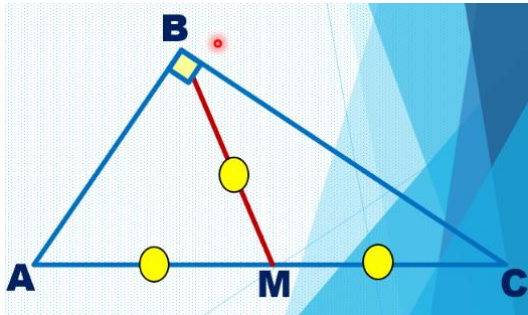
$$x = 13$$



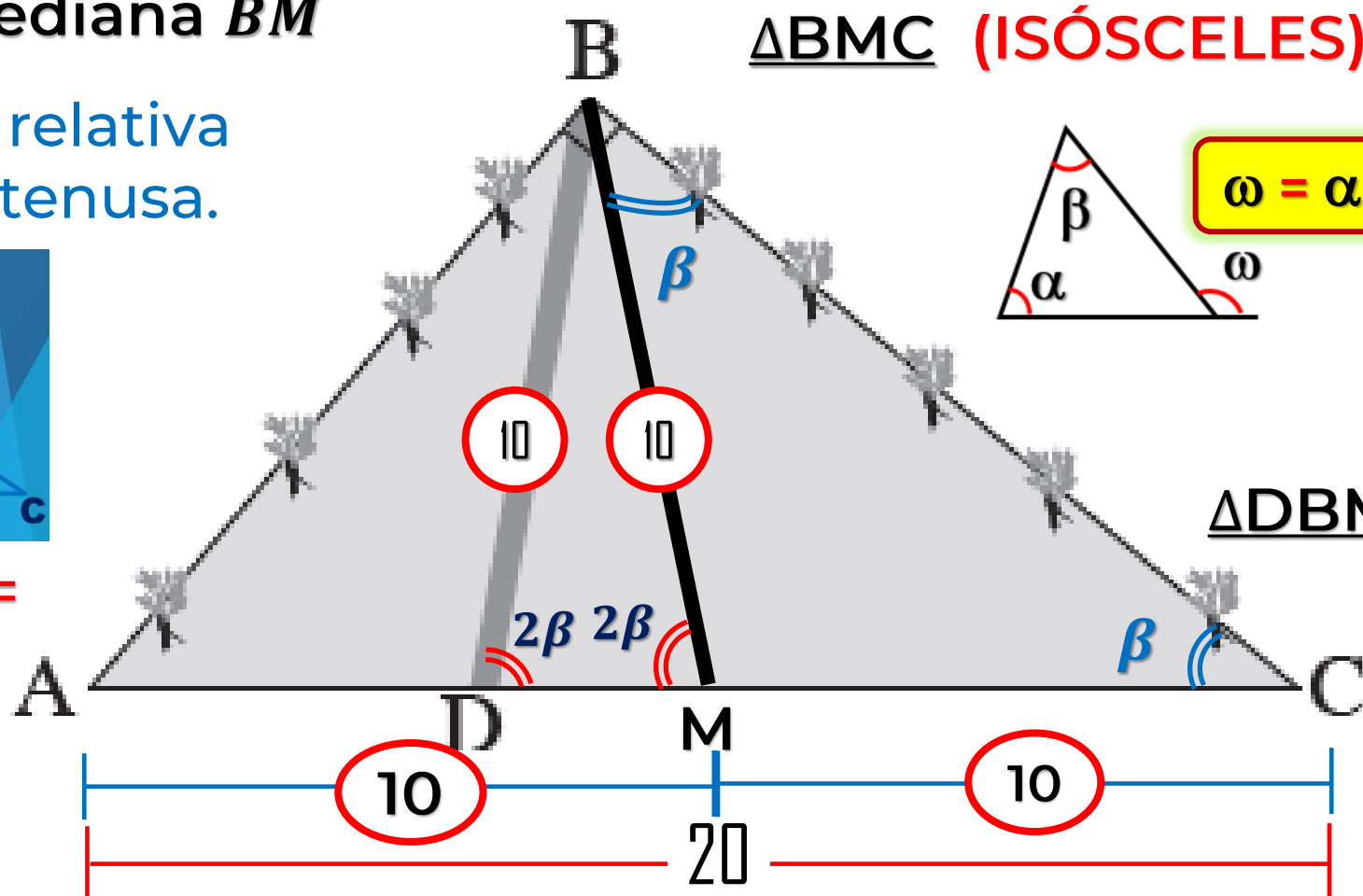
9. Se tiene un jardín ABC y una vereda \overline{BD} , tal que $m\angle BDC = 2(m\angle BCA)$. Si $AC = 20$ m, halle la longitud de la vereda \overline{BD} .

Se traza la mediana \overline{BM}

\overline{BM} : Mediana relativa a la hipotenusa.



$$AM = MC = BM = 10$$



$\triangle BMC$ (ISÓSCELES)

$$\omega = \alpha + \beta$$

$$m\angle AMB = 2\beta$$

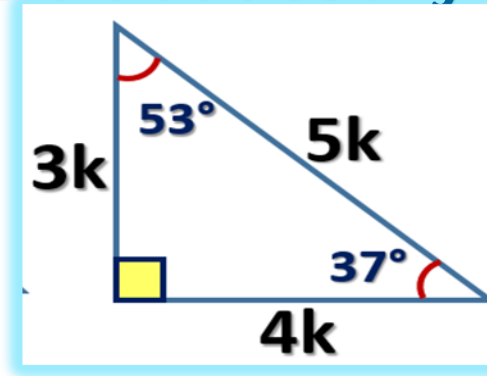
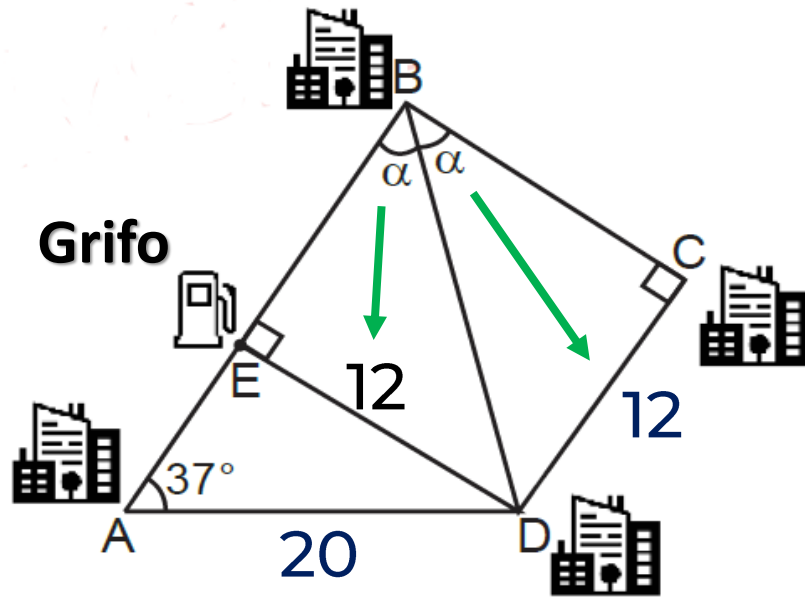
$\triangle DBM$ (ISÓSCELES)

$$BM = BD = 10$$

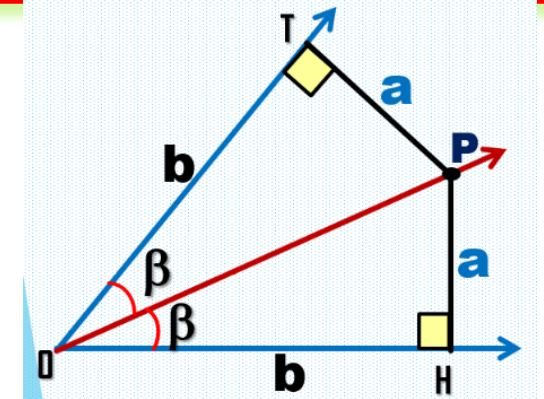
$$BM = 10\text{m}$$



10. Se tienen 4 ciudades ubicadas en los puntos A, B, C, D y un grifo ubicado en E entre las ciudades A y B, como se muestra en la figura. Si la distancia de la ciudad D al grifo es 12 km, halle la suma de las distancias de la ciudad D a las ciudades A y C.



TEOREMA DE LA BISECTRIZ



$\triangle AED$: Notable (37° y 53°)

$$AD = 20$$



$$AD + DC = 20 + 12 = 32$$

$$DC = 12$$

$$AD + DC = 32 \text{ km}$$