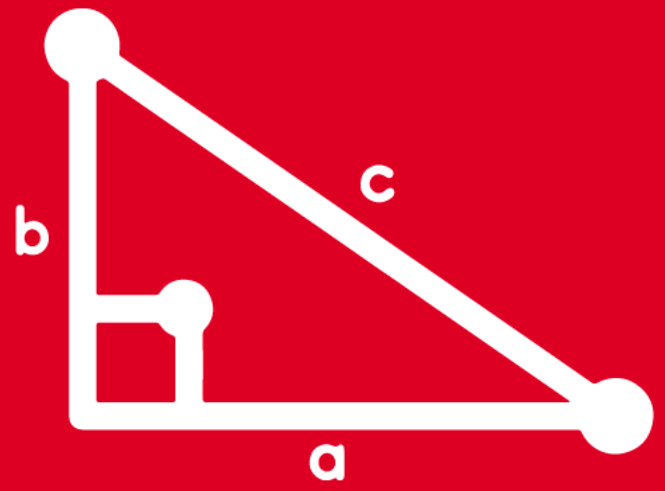
TRIGONOMETRY

1st
SECONDARY



Review

SACO OLIVEROS

HELICOPRACTICE – 1

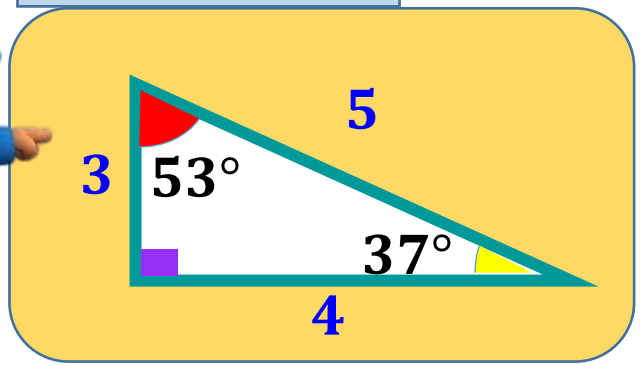
Escriba verdadero (V) o falso (F) según corresponda:

a. 5 sen37° $= 3$ (*V*)

b. 8 sec37° $= 25$ (*F*)

c. 18 tan 53° $= 24$ (*V*)

Recordar:



RESOLUCIÓN:

a. 5 sen37° $= \cancel{5} \cdot \left(\frac{3}{\cancel{5}}\right) = 3$

b. 8 sec 37° $= \overset{2}{\cancel{8}} \cdot \left(\frac{5}{\underset{1}{\cancel{4}}}\right) = 10$

c. 18 tan53° $= \overset{6}{\cancel{18}} \cdot \left(\frac{4}{\underset{1}{\cancel{3}}}\right) = 24$

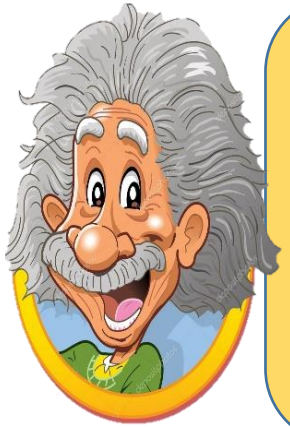
$\therefore V; F; V$

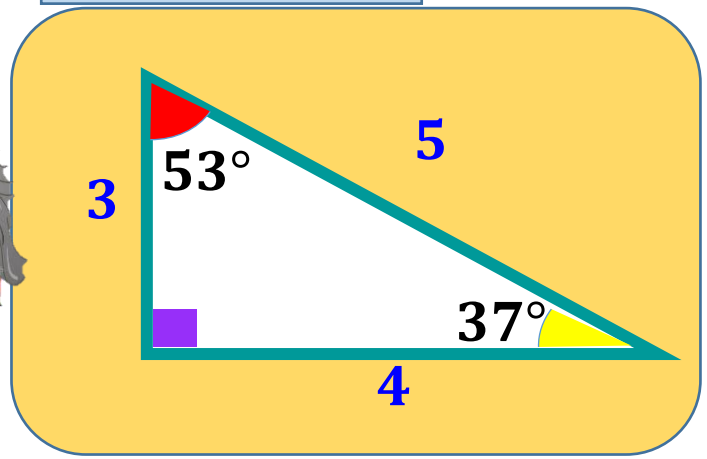
HELICOPRACTICE – 2

Calcule el valor de y

$$y - tan\,53° = \csc 37° + \cot 37°$$

Recordar:





RESOLUCIÓN:

$$y - tan\,53° = \csc 37° + \cot 37°$$

$$y - \frac{4}{3} = \frac{5}{3} + \frac{4}{3}$$

$$y - \frac{4}{3} = \frac{9}{3}$$

$$y = \frac{9}{3} + \frac{4}{3}$$

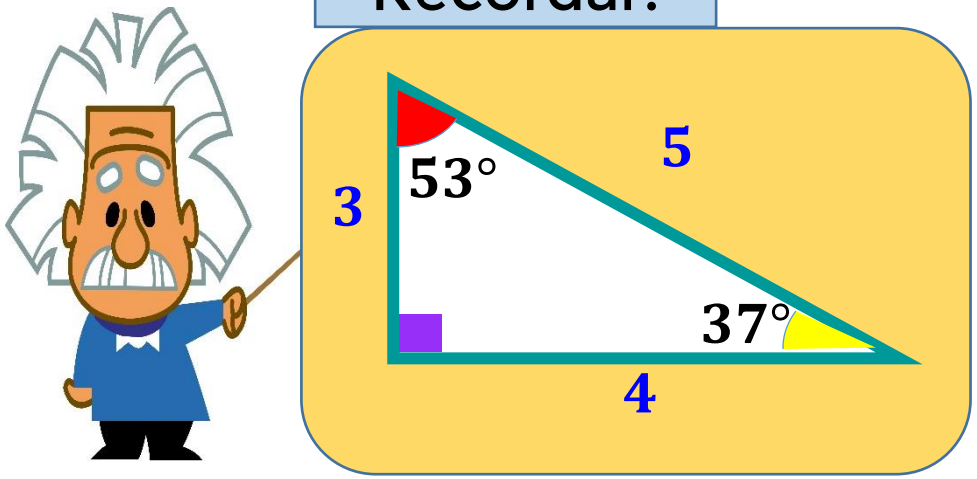
$$\therefore\ y = \frac{13}{3}$$

HELICOPRACTICE – 3

Calcule

$$P = \frac{cos\,53° + cot\,37°}{tan\,53° - sen\,53°}$$

Recordar:



RESOLUCIÓN:

$$P = \frac{\frac{3}{5} + \frac{4}{3}}{\frac{4}{3} - \frac{4}{5}} = \frac{\frac{9+20}{15}}{\frac{20-12}{15}}$$

$$P = \frac{\frac{29}{15}}{\frac{8}{15}} = \frac{29 \times \cancel{15}}{\cancel{15} \times 8}$$

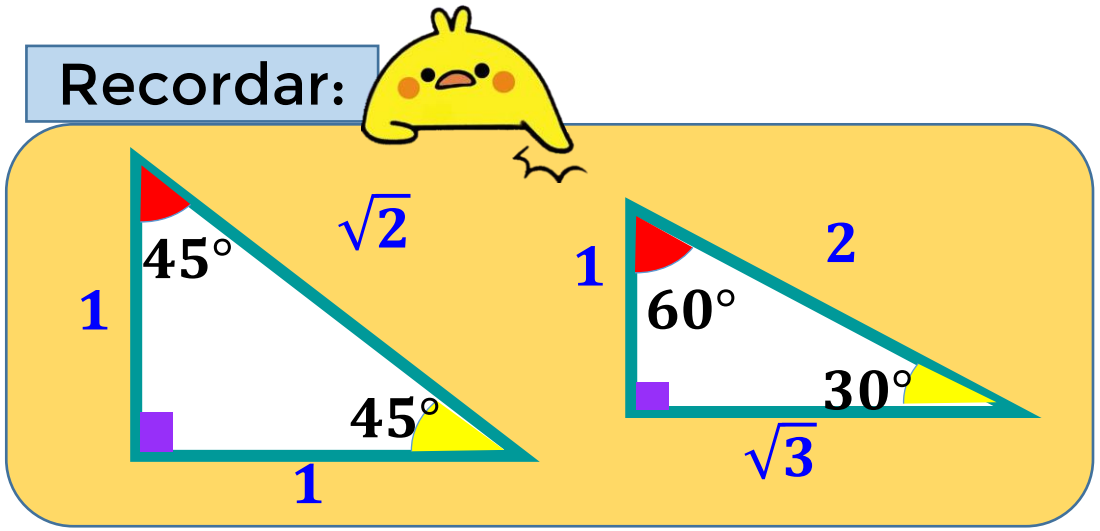
$$\therefore P = \frac{29}{8}$$

HELICOPRACTICE – 4

Calcule

$$M = \frac{16\,cot\,45° + 8\,cos60°}{sec^2\,45°}$$

Recordar:



RESOLUCIÓN:

$$M = \frac{16 \times (1) + \cancel{8}^{4} \times \left(\frac{1}{\cancel{2}}\right)^{1}}{\left(\sqrt{2}\right)^2}$$

$$M = \frac{16 + 4}{2} = \frac{20}{2}$$

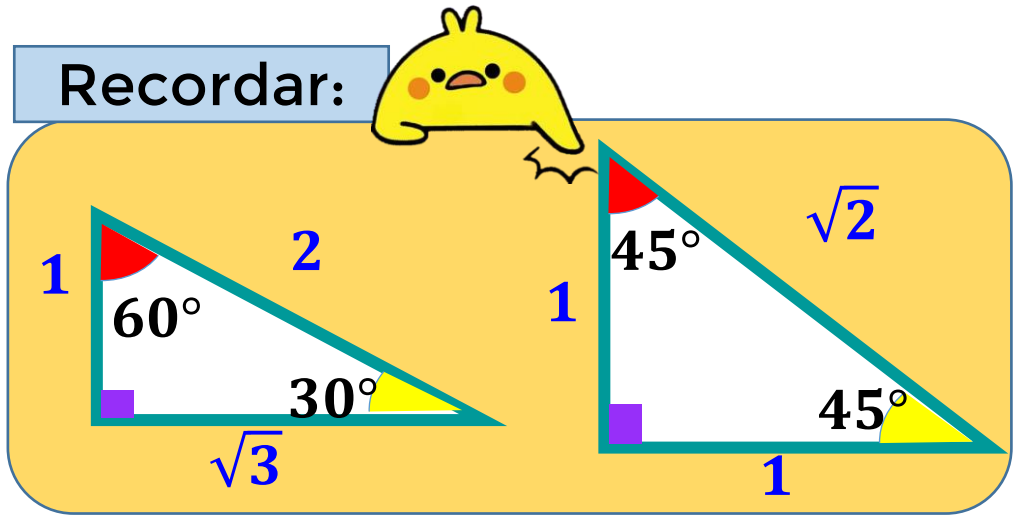
$$\therefore M = 10$$

HELICOPRACTICE – 5

Determine el valor de x.

$$x.\cot^2 30° - 4\sec 60° = 7\cot 45°$$

Recordar:



RESOLUCIÓN:

$$x\ \left(\sqrt{3}\right)^2 - 4.(2) = 7.(1)$$

$$3.x - 8 = 7$$

$$3x = 15$$

$$x = \frac{15}{3}$$

$$\therefore x = 5$$

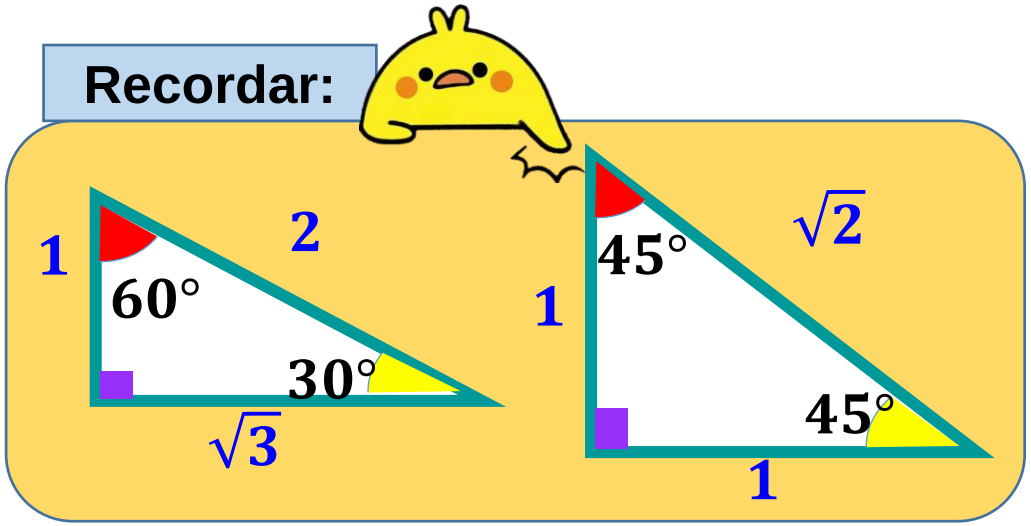
HELICOPRACTICE – 6

Calcule $A \cdot B$, si :

$$A = sec^2 30° + sen^2 45°$$

$$B = tan^2 60° + csc^2 30°$$

Recordar:



RESOLUCIÓN:

$$A = \left(\frac{2}{\sqrt{3}}\right)^2 + \left(\frac{1}{\sqrt{2}}\right)^2 = \frac{4}{3} + \frac{1}{2}$$

$$A = \frac{(4)(2) + (3)(1)}{(3)(2)} = \frac{8+3}{6} \Rightarrow A = \frac{11}{6}$$

$$B = \left(\sqrt{3}\right)^2 + (2)^2$$

$$B = 3 + 4$$

$$\Rightarrow B = 7$$

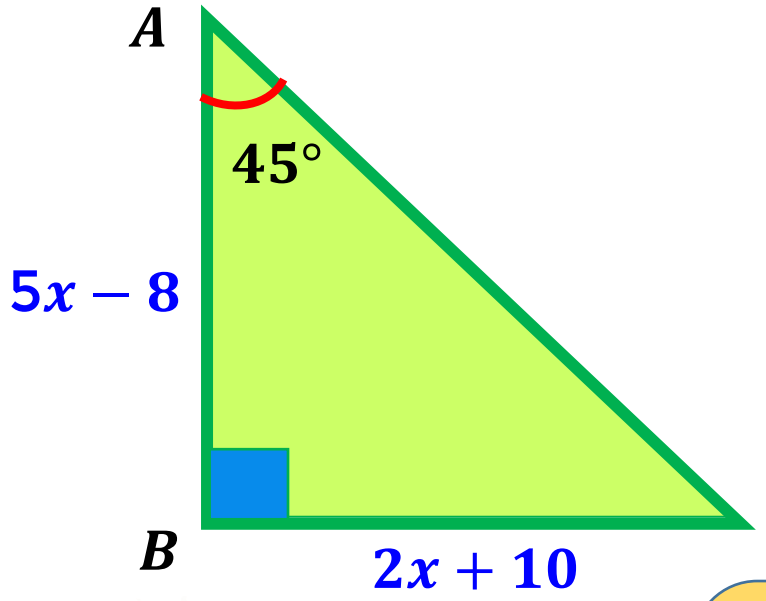
Piden:

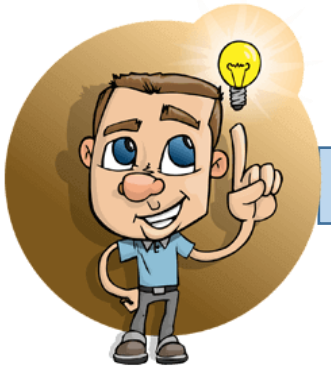
$$A \cdot B = \left(\frac{11}{6}\right).(7)$$

$$\therefore A \cdot B = \frac{77}{6}$$

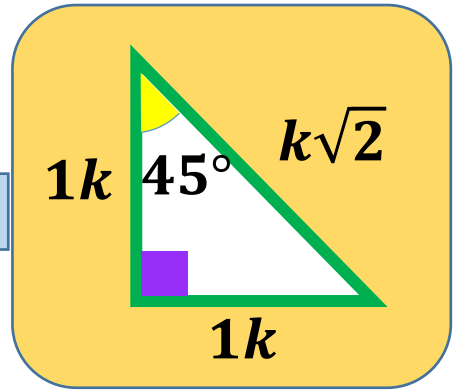
HELICOPRACTICE – 7

Del gráfico, calcule el valor de x





Remember:



RESOLUCIÓN:

En el ΔABC (Notable de 45°)

Se observa:

$$AB = BC$$

Luego:

$$5x - 8 = 2x + 10$$

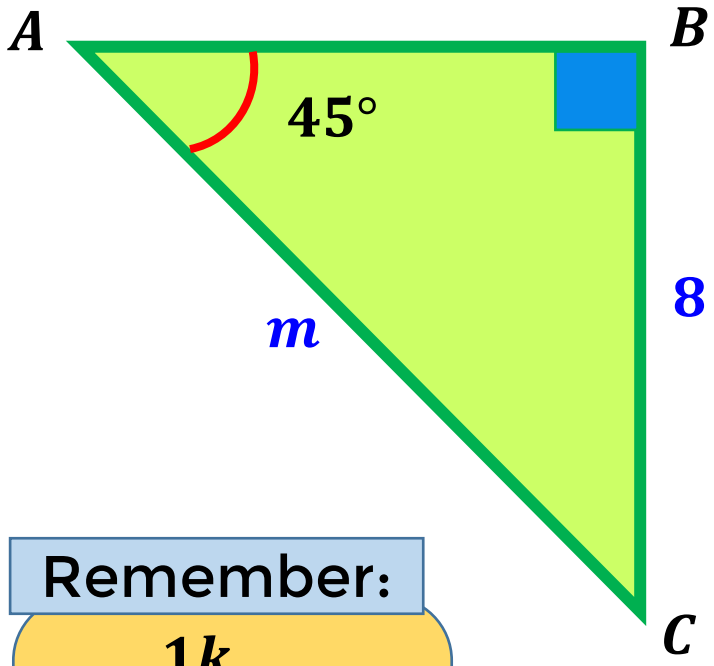
$$5x - 2x = 10 + 8$$

$$3x = 18$$

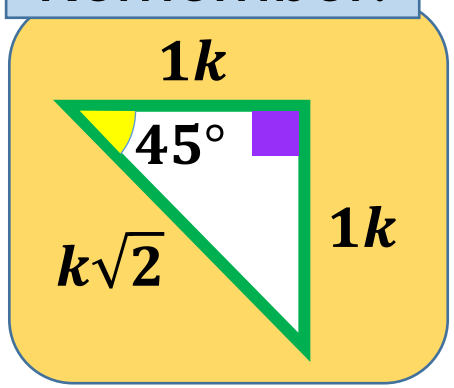
$$\therefore x = 6$$

HELICOPRACTICE – 8

Del gráfico, calcule m^2



Remember:



RESOLUCIÓN:

En el ΔABC (Notable de 45°)

Se observa: $k = 8$

Luego: $m = k\sqrt{2}$

$\Rightarrow m = 8\sqrt{2}$

Piden:

$$m^2 = (8\sqrt{2})^2$$

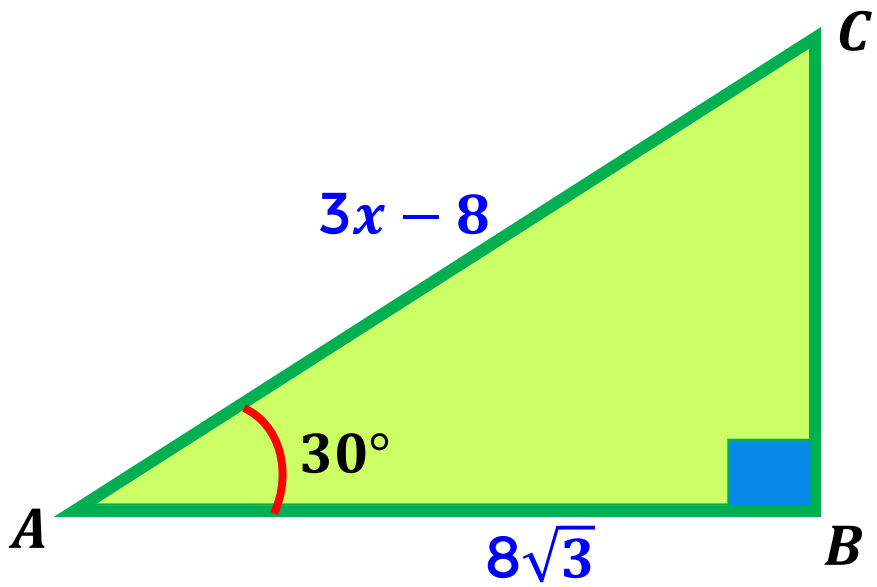
$$m^2 = (8)^2 \times (\sqrt{2})^2$$

$$m^2 = 64 \times 2$$

$$\therefore m^2 = 128$$

HELICOPRACTICE – 9

Del gráfico, calcule el valor de x



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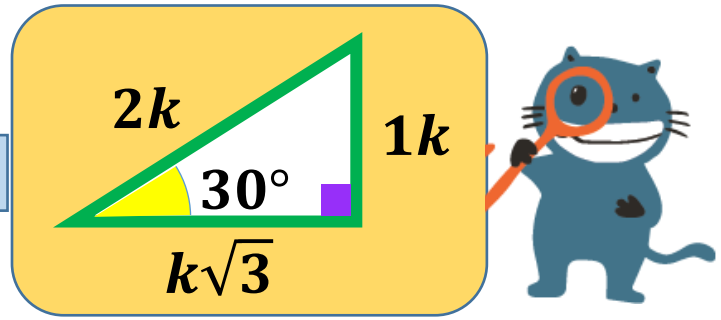


RESOLUCIÓN:

En el ΔABC (Notable de 30° y 60°)

Se observa: $k\sqrt{3} = 8\sqrt{3} \Rightarrow k = 8$

Luego: $3x - 8 = 2k$

$\Rightarrow 3x - 8 = 2(8)$

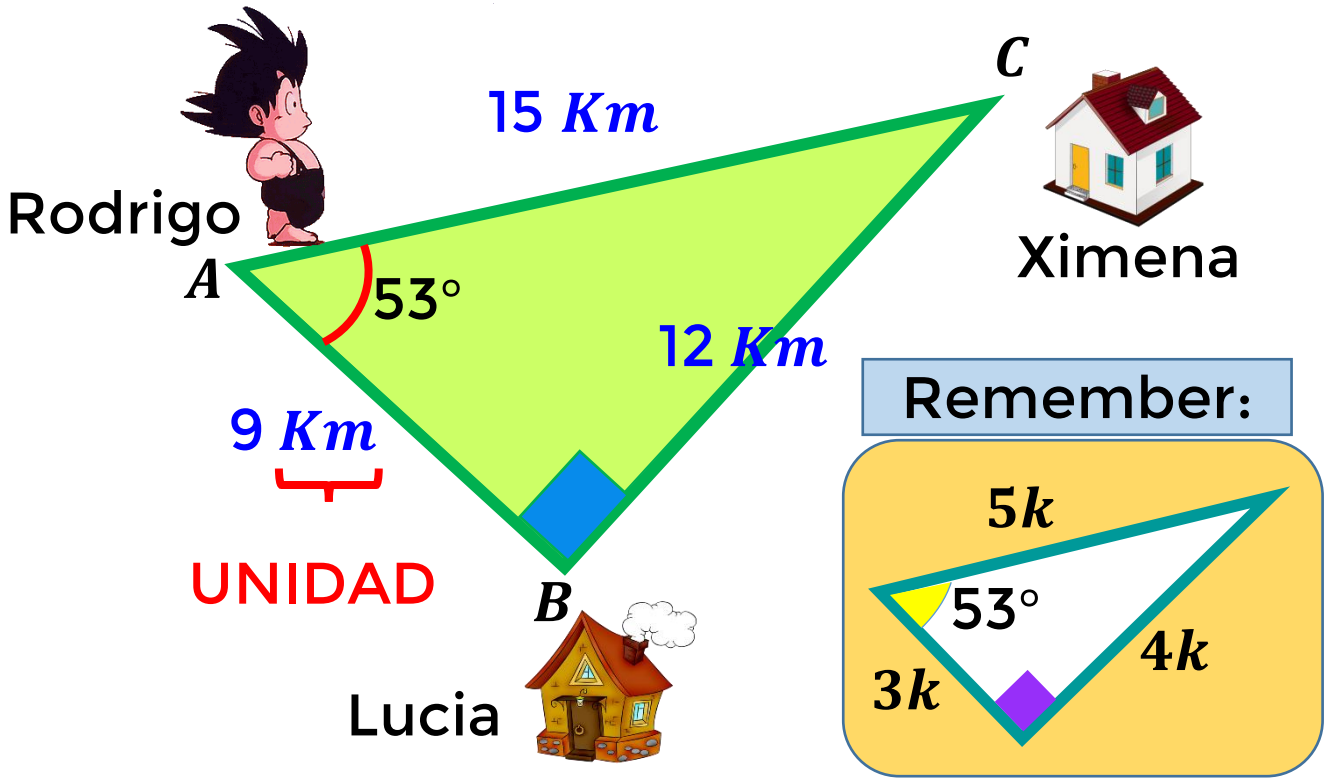
$3x - 8 = 16$

$3x = 24$

$\therefore x = 8$

HELICOPRACTICE – 10

La imagen muestra la ruta que debe tomar Rodrigo para visitar a sus compañeras Ximena y Lucia. Si inicia su recorrido visitando a Ximena y termina en casa de Lucia. ¿Cuántos Kilómetros recorre Rodrigo?



Remember:

RESOLUCIÓN:

En el ΔABC (Notable de 53° y 37°)

Se observa: $3k = 9 \Rightarrow K = 3$

Luego: $AC = 5k = 5(3)$

$\Rightarrow \boxed{AC = 15\ Km}$

$BC = 4k = 4(3)$

$\Rightarrow \boxed{BC = 12\ Km}$

Piden: ¿Cuántos Kilómetros recorre Rodrigo?

$\therefore$ Rodrigo recorre 27 Km