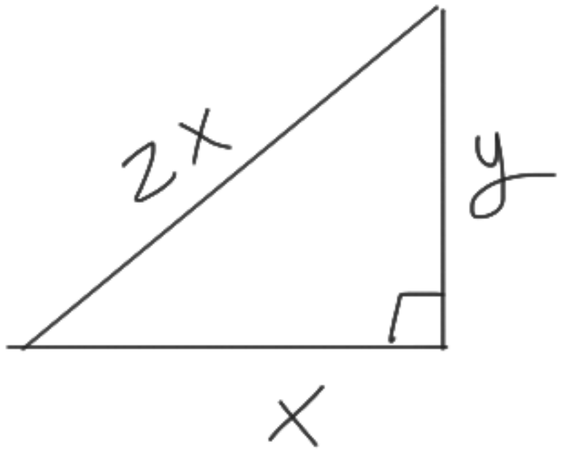
$$10^2 + 24^2 = c^2$$

$$100 + 576 = c^2$$

$$\begin{array}{r} {\scriptstyle 11} \\ 676 \end{array} \Rightarrow c = 26 \checkmark$$



$y = ?$

$$y^2 = (2x)^2 - x^2 = 4x^2 - x^2 = 3x^2$$

$$y = \sqrt{3}\,x$$

no $\sqrt{3x}$

Para probar que el $\triangle$ de lados 5, 12 y 13 es rectángulo, basta verificar que $5^2+12^2=13^2$

$5^2+12^2=25+144=169$

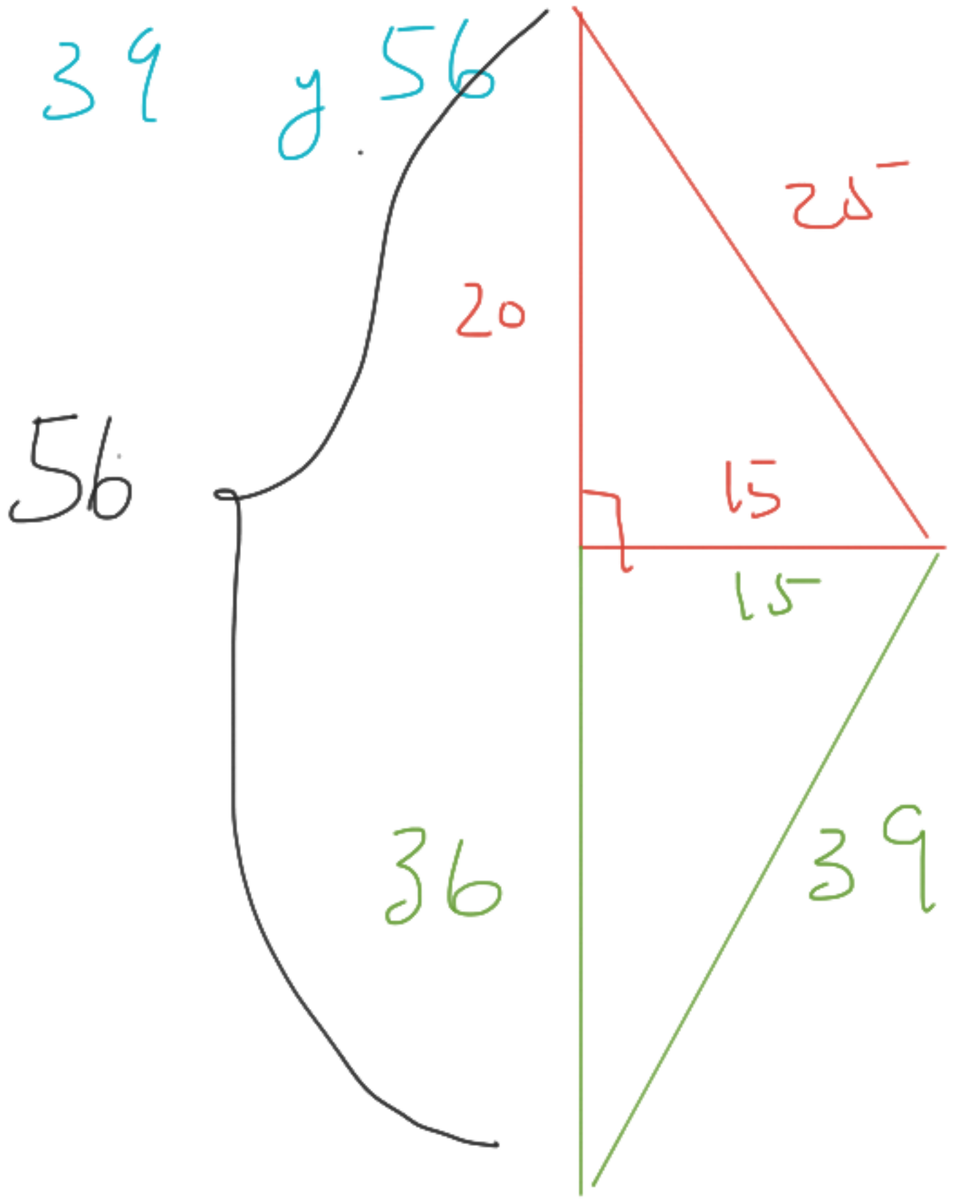
$13^2=169$

$=$

✓ ¡Verificado!

Calcula el área del $\triangle$ de lados

25, 39 y 56



(3, 4, 5) x 5

3 x (5, 12, 13)

$$A = \frac{56 \cdot 15}{2} = 28 \cdot 15 = 420$$

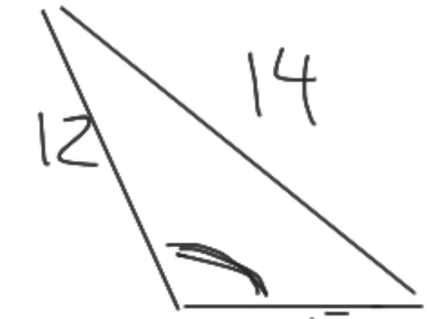
28
15
140
28

{5, 12, 14} .es obtuso

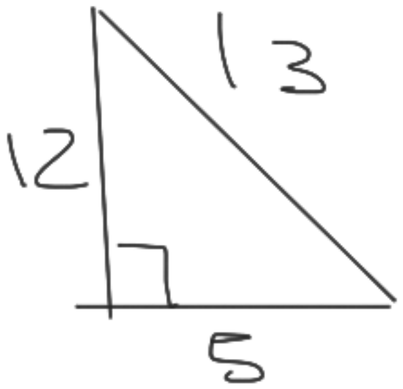
$14^2 > 5^2 + 12^2$

11 11

196 169



obtuso



$\{6, 8, 10\}$ rectángulo $6^2 + 8^2 = 10^2$

$2 \wedge \{3, 4, 5\}$ ✓

$36 + 64 = 100$

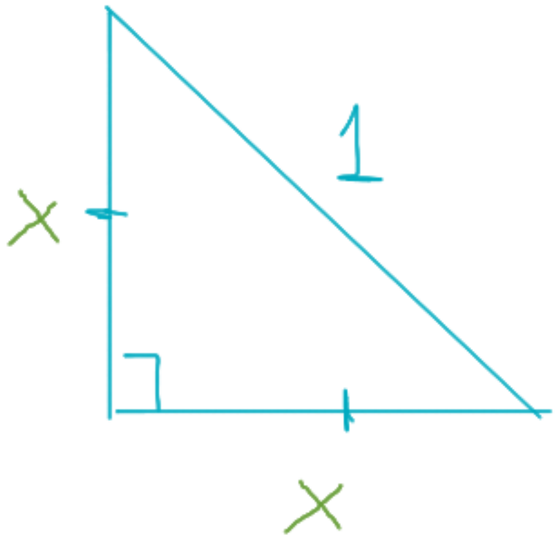
$\|$

100

$\{5, 12, 12\}$ agudo

$12^2 < 12^2 + 5^2$ ✓

1. Find the length of each leg of an isosceles right triangle whose hypotenuse has length 1. Challenge: Find the length, correct to nine decimal places without using your calculator (but using information contained in the text above!).



$$1^2 = x^2 + x^2$$

$$1 = 2x^2$$

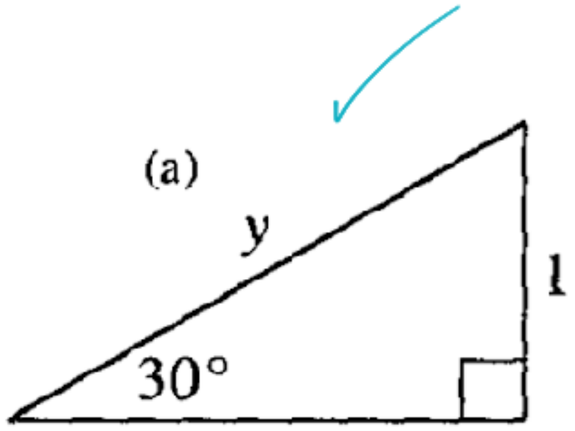
$$\frac{1}{2} = x^2$$

$$\sqrt{\frac{1}{2}} = x$$

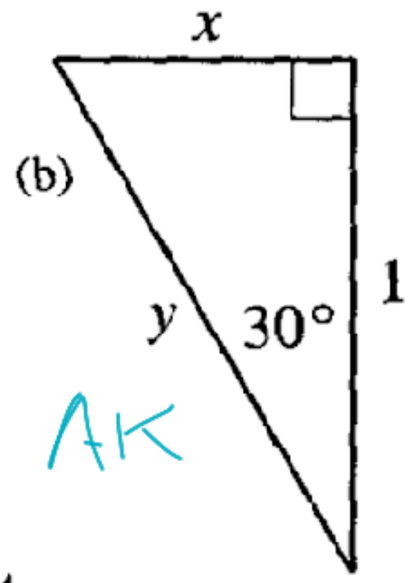
$$\frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}} =$$

2. Calcula x y y:

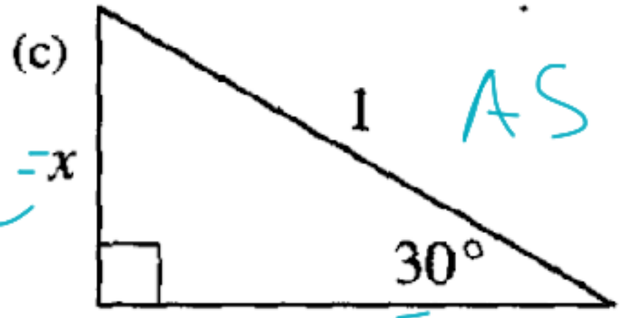
$\left(\frac{1}{2}\right)^2 + y^2 = 1 \Rightarrow y^2 = \frac{3}{4} \Rightarrow y = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{\sqrt{4}} = \frac{\sqrt{3}}{2}$



Adriel



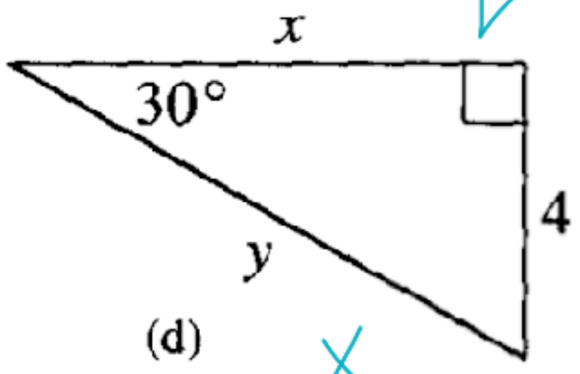
AK



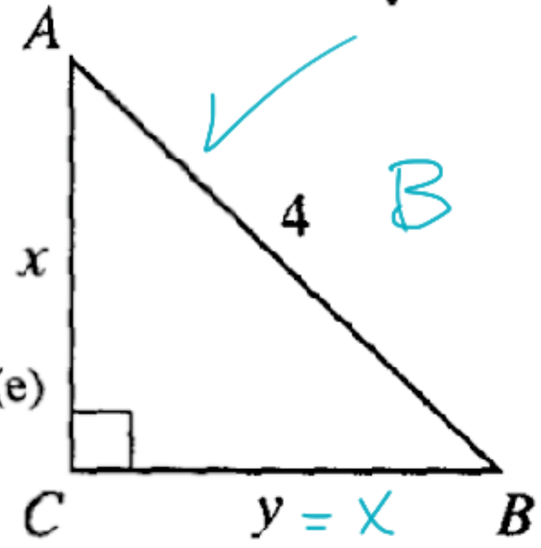
$\frac{1}{2} = x$

AS

$y = \frac{\sqrt{3}}{2}$

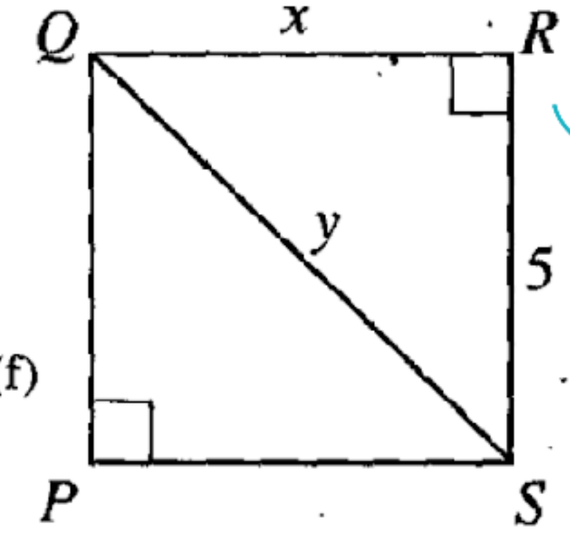


X



B

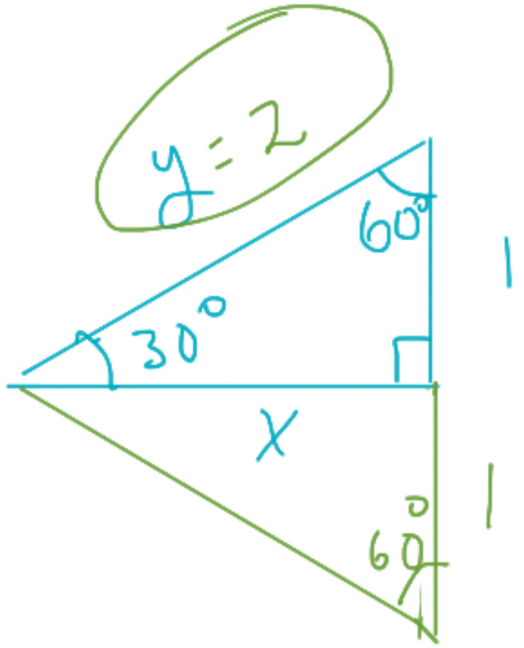
AC=BC



Yo

PQRS is a square

$16 = 4^2 = x^2 + x^2 = 2x^2 \Rightarrow x^2 = 8 \Rightarrow x = \sqrt{8} = y$

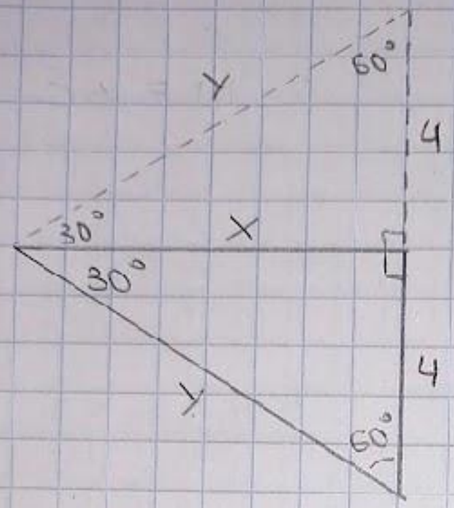


$$x^2 + 1 = y^2$$

$$x^2 + 1 = 4$$

$$x^2 = 3$$

$$x = \sqrt{3}$$



$y = 8$

$8^2 = x^2 + 4^2$

$64 = x^2 + 16$

$64 - 16 = x^2$

$48 = x^2$

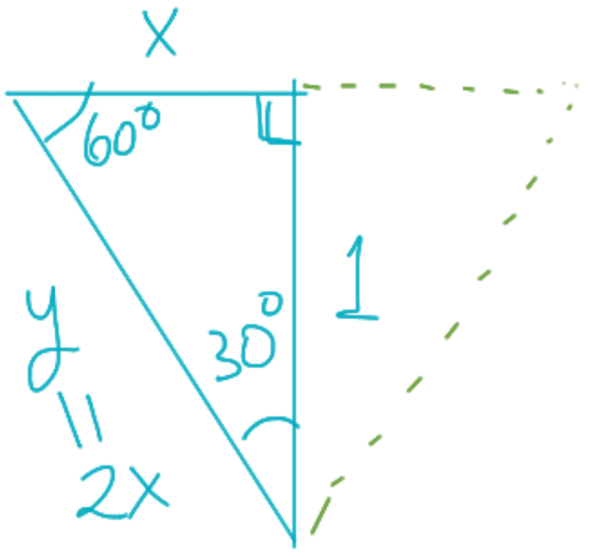
$\sqrt{48} = x \quad = \sqrt{16 \cdot 3} = \sqrt{16}\ \sqrt{3} = 4\sqrt{3}$

~~$6.92 = x$~~

$$\sqrt{ab} = \sqrt{a}\sqrt{b}$$

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

$$\sqrt{a+b} \neq \sqrt{a} + \sqrt{b}$$



x es la mitad del lado del ΔE

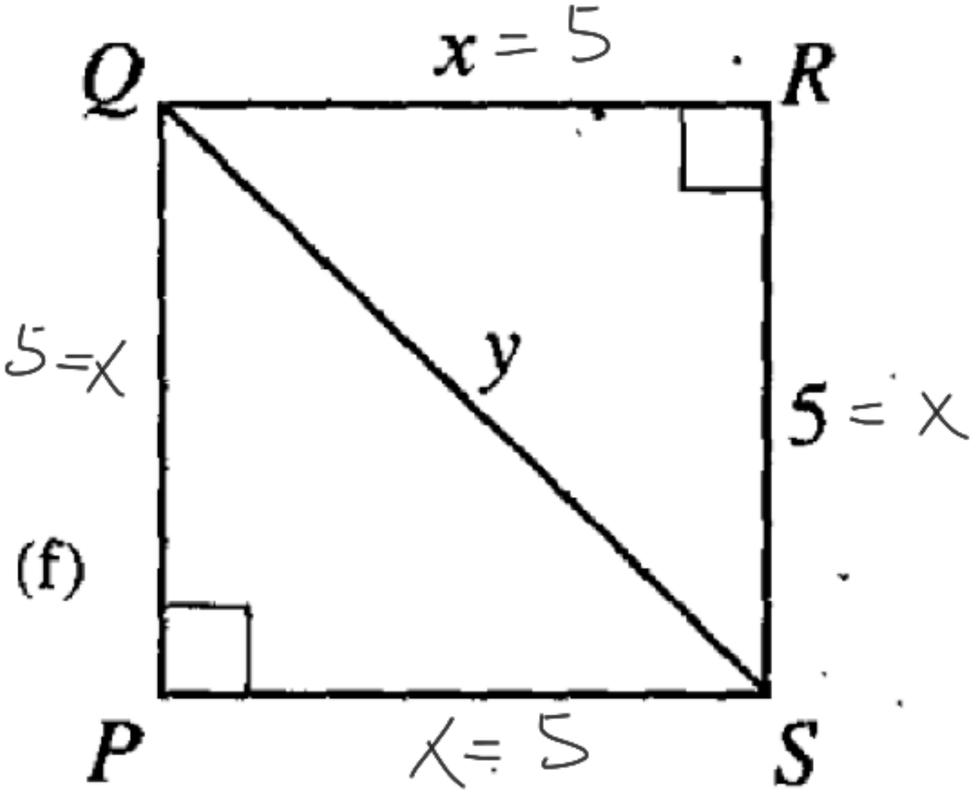
Cada lado del Δ equilátero mide y

Pitágoras $\Rightarrow$ $x^2 + 1 = (2x)^2 = 4x^2$

$\Rightarrow 1 = 3x^2 \Rightarrow \frac{1}{3} = x^2 \Rightarrow x = \sqrt{\frac{1}{3}}$

$= \frac{1}{\sqrt{3}}$


75°
18°



PQRS is a square

Pitágoras:

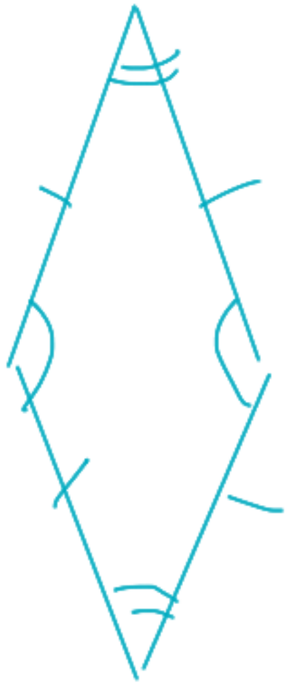
$5^2 + 5^2 = y^2$

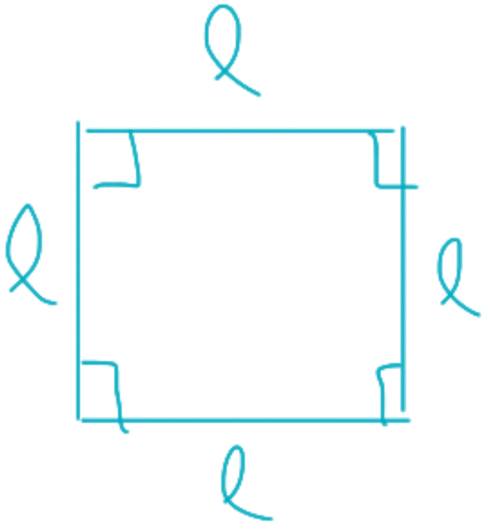
$\|$

50

$y = \sqrt{50} = \sqrt{25}\sqrt{2}$

$= 5\sqrt{2}$

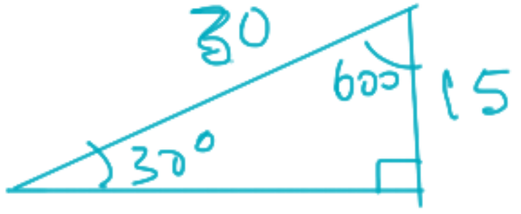




$$\text{Área} = \ell^2$$

Calcular el $\operatorname{sen} 30^\circ$

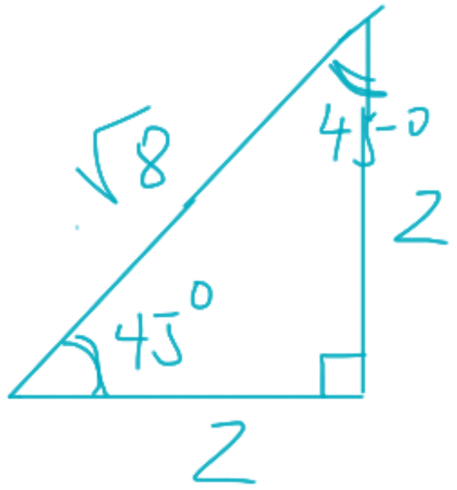
mételo en un Δ rectángulo



$$\operatorname{sen} 30^\circ = \frac{\text{cat. op}}{\text{hip}} = \frac{15}{30} = \frac{1}{2}$$

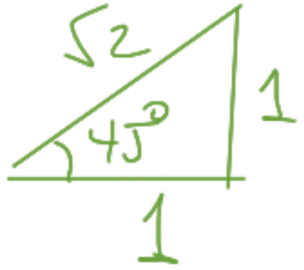
$$\operatorname{sen} 30^\circ = \frac{1}{2}$$

Calcula el $\operatorname{sen} 45^{\circ}$



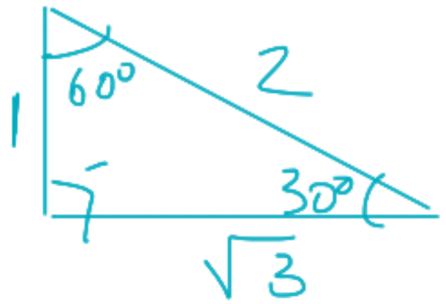
$$\operatorname{sen} 45^{\circ} = \frac{2}{\sqrt{8}} = \frac{2}{\sqrt{4 \cdot 2}} = \frac{2}{\sqrt{4}\sqrt{2}}$$

$$= \frac{2}{2\sqrt{2}} = \frac{1}{\sqrt{2}}$$



$$\operatorname{sen} 45^{\circ} = \frac{1}{\sqrt{2}}$$

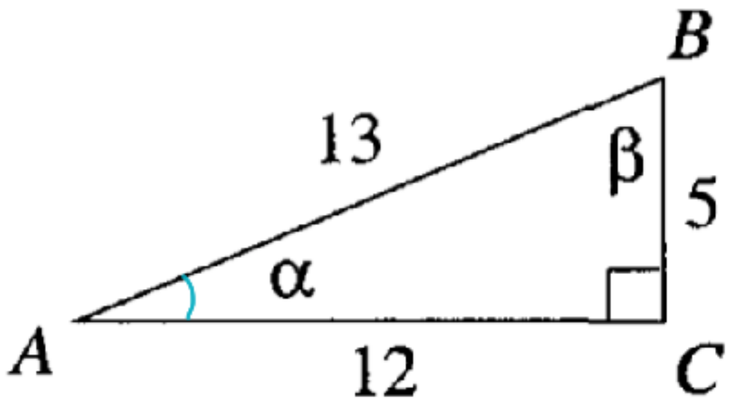
Calcula el $\operatorname{sen} 60^\circ$



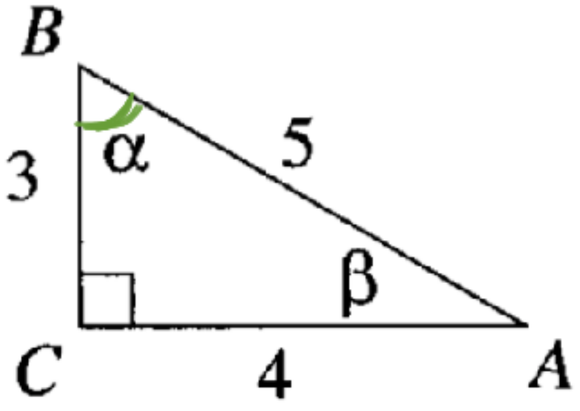
$\operatorname{sen} 60^\circ = \frac{\sqrt{3}}{2}$ ✓

1. In each diagram below, what is the value of $\sin \alpha$?

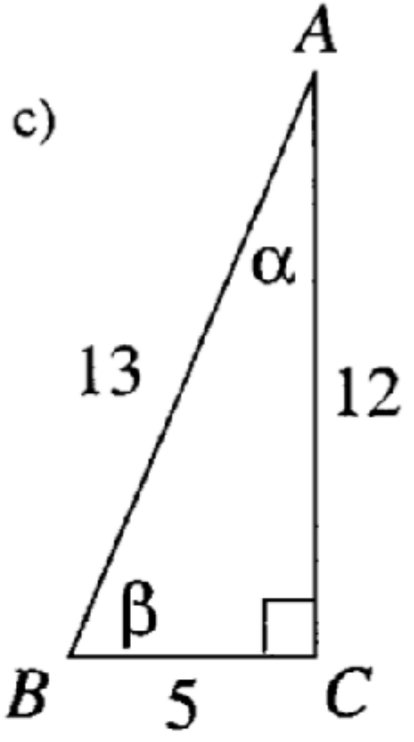
a)



b)



c)



a) $\text{sen}\,\alpha = \frac{5}{13}$

$\text{sen}\,\beta = \frac{12}{13}$

b) $\text{sen}\,\alpha = \frac{4}{5}$

$\text{sen}\,\beta = \frac{3}{5}$

c) $\text{sen}\,\alpha = \frac{5}{13}$

$\text{sen}\,\beta = \frac{12}{13}$