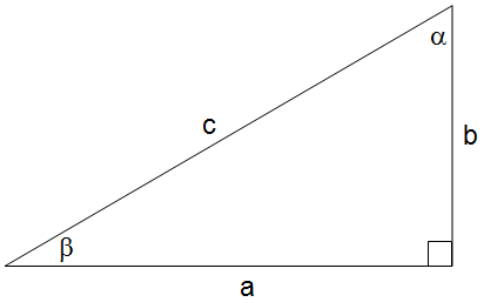
TAREA 2 Unidad 2.



En los problemas del 23-27, calcular las incógnitas indicadas. Cada problema se refiere al mismo triángulo.

23. a= 4, β= 27º; b= ?, c=?

$\tan 27^o = \frac{b}{a}$
$\tan 27^o = \frac{b}{4}$
b= tan27º(4)
b= 2.03

$c^2=a^2+b^2$
$c^2= (4)^2+ (2.03)^2$
$c^2= 16+ 4.12$
$c^2= 20.153$
$c=\sqrt{20.153}$
c=4.489

24. a= 4, b= 10; c=?, β=?, a=?

$\tan\beta = \frac{b}{a}$
$\tan\beta = \frac{10}{4}$
$\beta = \tan^{-1}(\frac{10}{4})$
β= 68.19º

$c^2=a^2+b^2$
$c^2=(4)^2+(10)^2$
$c^2= 16+ 100$
$c^2= 116$
$c=\sqrt{116}$
c=10.77

α= 180º-90º-βº
α= 180º-90º-68.19º
α= 21.81º

25. b= 8, β=34.33º; a=? , c=?

$\tan\beta = \frac{b}{a}$
$\tan 34.33^o = \frac{8}{a}$
$a(\tan 34.33^o)= 8$
$a=\frac{8}{tan34.33}$
a= 11.71

$\text{sen}\beta = \frac{b}{c}$
$\text{sen}34.33^o = \frac{8}{c}$
$c(\text{sen}34.33^o)= 8$
$c=\frac{8}{sen34.33}$
c=14.18

26. a= 9, c= 12; β=?, α=?, b=?

$\cos\beta = \frac{a}{c}$
$\beta = \cos^{-1}(\frac{9}{12})$
β= 41.40º

$c^2=a^2+b^2$
$b^2= a^2-c^2$
$b^2= 144-81$
$b^2= 63$
$b= =\sqrt{63}$
b= 7.93

α= 90º-βº
α= 90º-41.40º
α= 48.60º

27. b= 1.5, c=3; β=?, α=?, a=?

$\text{sen}\beta = \frac{b}{c}$
$\beta = \text{sen}^{-1}(\frac{b}{c})$
$\beta = \text{sen}^{-1}(\frac{1.5}{3})$
β= 30º

$c^2=a^2+b^2$
$a^2=b^2-c^2$
$a^2=(3)^2-(1.5)^2$
$a^2= 9-2.25$
$a^2= 6.75$
$a=\sqrt{6.75}$
a= 2.598

α= 90º-βº
α= 90º-30º
α= 60º