



Materiales Educativos GRATIS

TRIGONOMETRIA

CUARTO

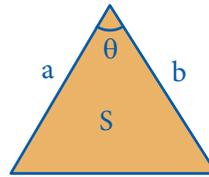
EJERCICIOS DE RESOLUCIÓN DE TRIÁNGULOS RECTÁNGULOS

Fórmula:

$$\frac{\text{Lado incógnita}}{\text{Lado dato}} = R.T. (\theta)$$

Área de una región triangular

Si en un triángulo se conoce la longitud de dos lados y la medida del ángulo que forman dichos lados, se puede calcular el área de la región triangular.

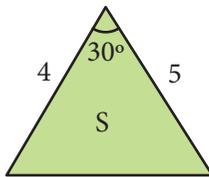


$$S = \frac{ab}{2} \text{ Sen}\theta \quad S : \text{área}$$

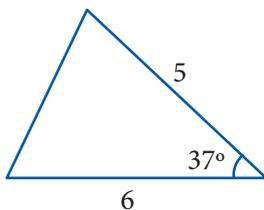
Trabajando en clase

Integral

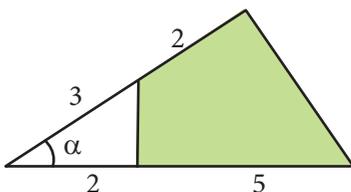
1. Halla el área sombreada.



2. Calcula el área de la región triangular mostrada.

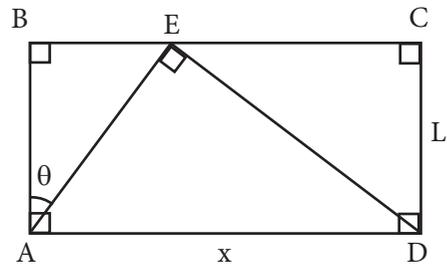


3. Calcula el área de la figura sombreada.

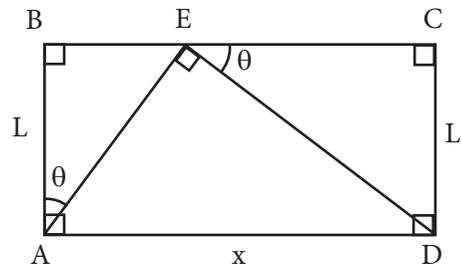


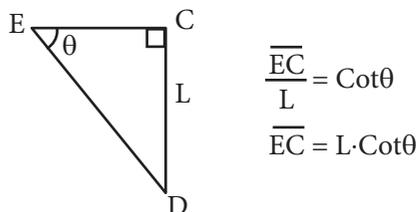
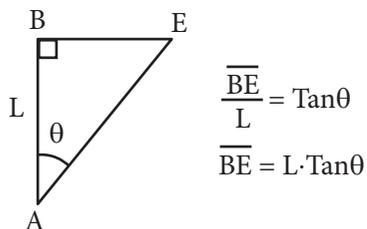
PUCP

4. Calcula «x» en función de los datos dados.



Resolución:



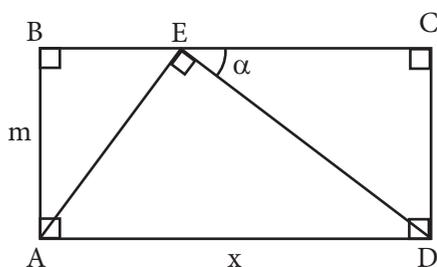


$$x = \overline{BE} + \overline{EC}$$

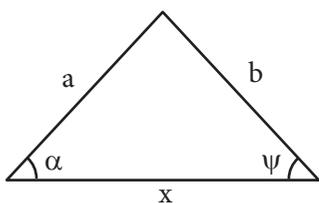
$$x = L \tan\theta + L \cot\theta$$

$$x = L(\tan\theta + \cot\theta)$$

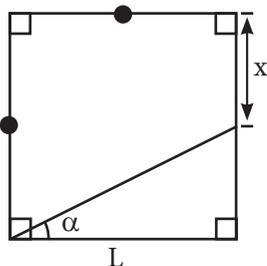
5. Halla «x»



6. Halla «x» en función de los datos dados.

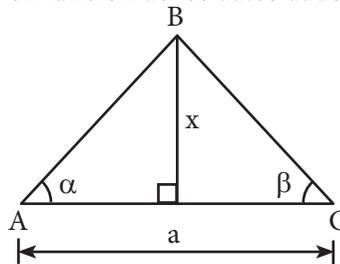


7. Calcula «x» en función de α y L.

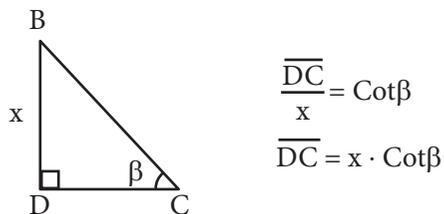
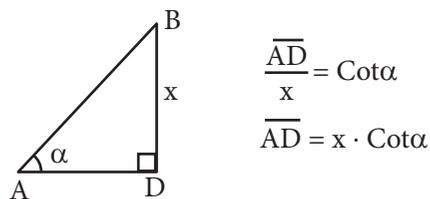
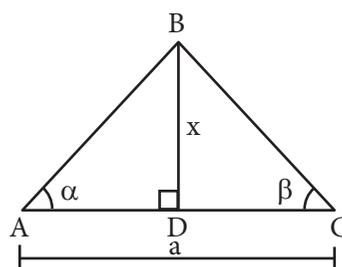


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8. Halla «x» en función de los datos dados.



Resolución:



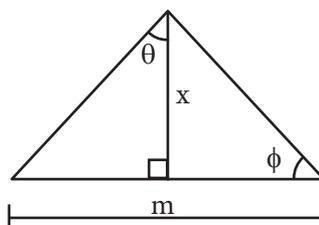
$$\overline{AD} + \overline{DC} = a$$

$$x \cdot \cot\alpha + x \cdot \cot\beta = a$$

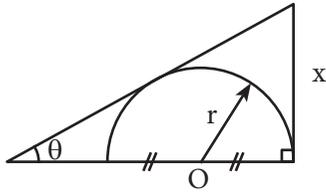
$$x(\cot\alpha + \cot\beta) = a$$

$$x = \frac{a}{\cot\alpha + \cot\beta}$$

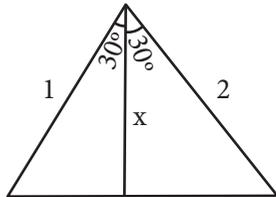
9. Halla «x» en función de los datos dados.



10. Calcula «x» en términos de r y θ .

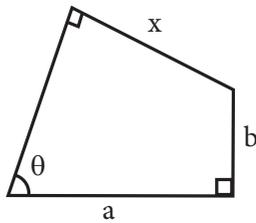


11. Calcula «x».

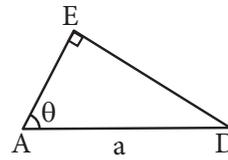
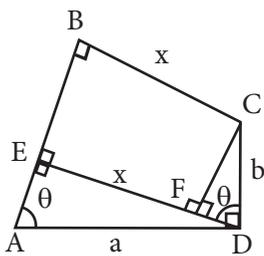


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12. De la figura, determina «x» en términos de a, b y θ .

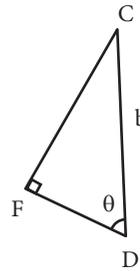


Resolución:



$$\frac{\overline{ED}}{a} = \text{Sen}\theta$$

$$\overline{ED} = a \cdot \text{Sen}\theta$$



$$\frac{\overline{FD}}{b} = \text{Cos}\theta$$

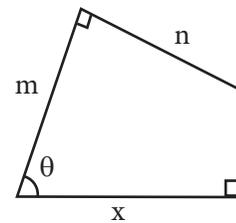
$$\overline{FD} = b \cdot \text{Cos}\theta$$

$$\overline{EF} + \overline{FD} = \overline{ED}$$

$$x + b\text{Cos}\theta = a\text{Sen}\theta$$

$$x = a\text{Sen}\theta - b\text{Cos}\theta$$

13. Calcula «x».



14. Calcula: $\frac{\text{Sen}3\alpha}{\text{Sen}\alpha}$

