



# RECURSOS DIDÁCTICOS

CUARTO DE SECUNDARIA

GEOMETRÍA

## TRIÁNGULOS

### PROPIEDADES BÁSICAS

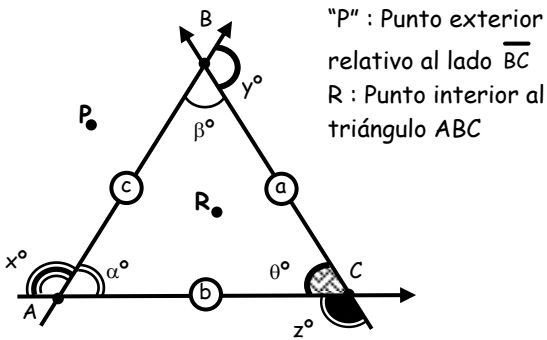
● **CONCEPTO :**

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Elementos :

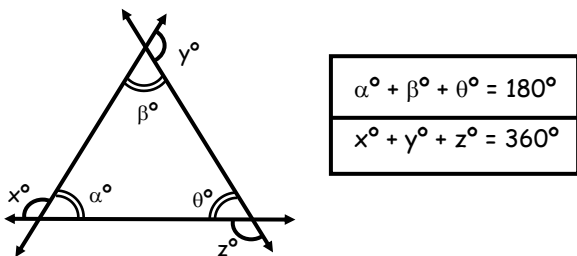
- Vértices : A, B, C
- Lados :  $\overline{AB}, \overline{BC}, \overline{AC}$  (a, b, c)
- Medidas de los ángulos internos :  $\alpha^\circ, \beta^\circ, \theta^\circ$
- Medidas de los ángulos externos :  $x^\circ, y^\circ, z^\circ$
- Perímetro : 2p

$\Rightarrow 2p = a + b + c$

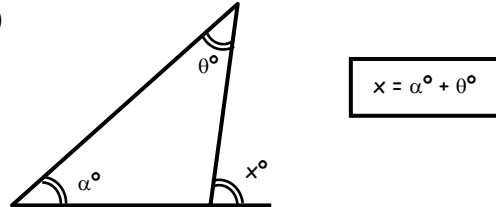
Además, notación :  
 $\Rightarrow \triangle ABC = \text{Triángulo } ABC$

**PROPIEDADES**

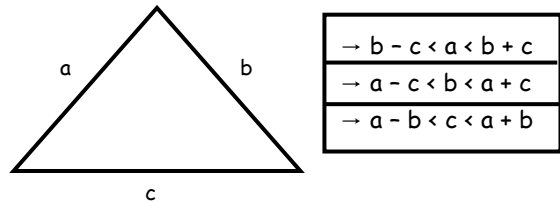
a) Suma de medidas de los ángulos internos.



b)

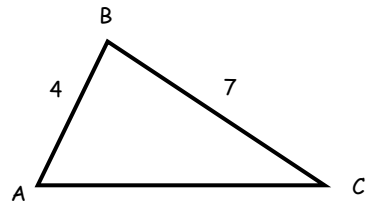


c) Propiedad de Existencia del triángulo



Ejemplo :

Calcular el máximo valor entero del lado  $\overline{AC}$  del  $\triangle ABC$ .



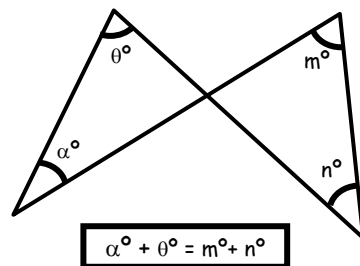
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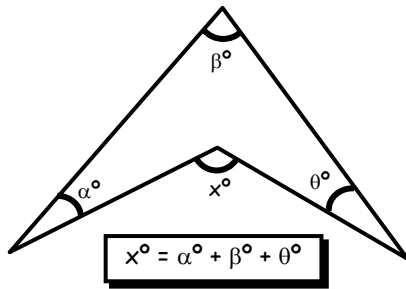
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d) Propiedades Adicionales

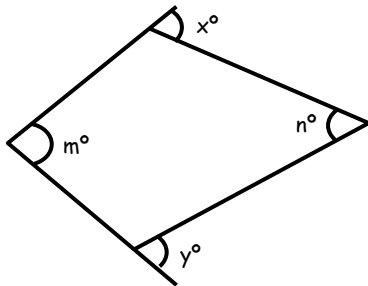
I)



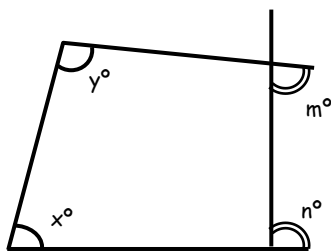
II)



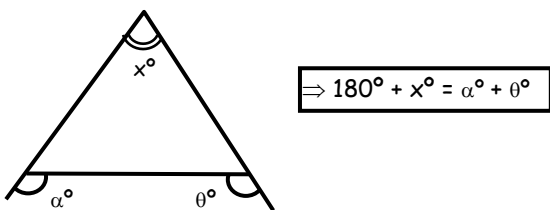
III)



IV)



V)

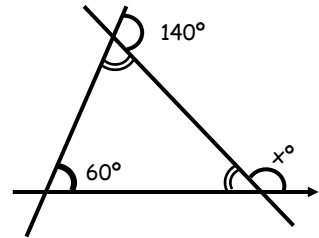


Ejm : Hallar "x" ;

### EJERCICIOS DE APLICACIÓN

1. En la figura. Calcular "x"

- a) 100°
- b) 120°
- c) 130°
- d) 140°
- e) 150°

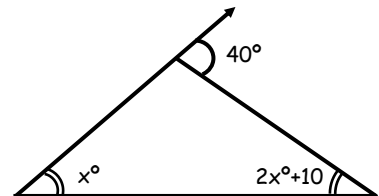


2. Determinar el menor ángulo interior de un triángulo, sabiendo que son tres números consecutivos.

- a) 60°
- b) 39°
- c) 69°
- d) 59°
- e) 61°

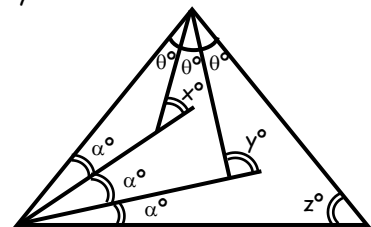
3. Determine el valor del ángulo "x"

- a) 10°
- b) 5°
- c) 15°
- d) 20°
- e) 30°



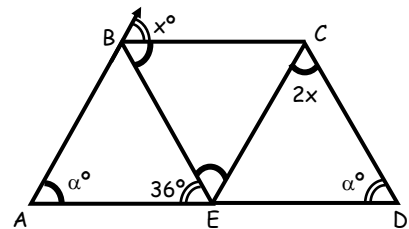
4. Calcular "x° + y° + z°"

- a) 60°
- b) 120°
- c) 180°
- d) 90°
- e) 360°



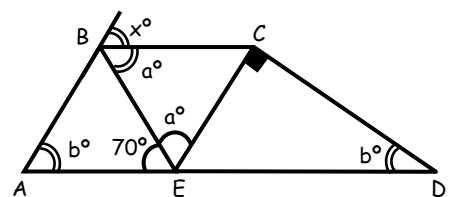
5. Calcular "x", Si :  $m\angle CBE = m\angle BEC$

- a) 108°
- b) 72°
- c) 36°
- d) 24°
- e) 12°



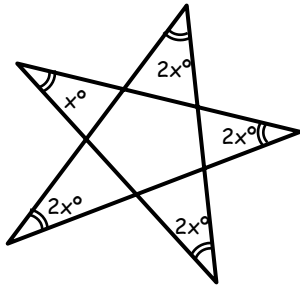
6. Calcular "x"

- a) 100°
- b) 75°
- c) 25°
- d) 70°
- e) 50°



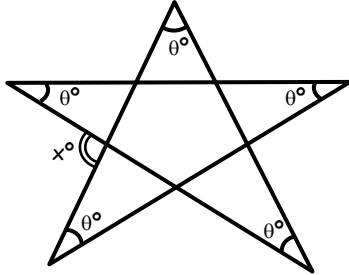
7. Calcular "x"

- a)  $60^\circ$
- b)  $20^\circ$
- c)  $30^\circ$
- d)  $10^\circ$
- e)  $15^\circ$



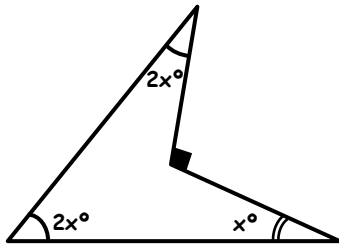
8. Calcular "x"

- a)  $108^\circ$
- b)  $72^\circ$
- c)  $36^\circ$
- d)  $20^\circ$
- e)  $10^\circ$



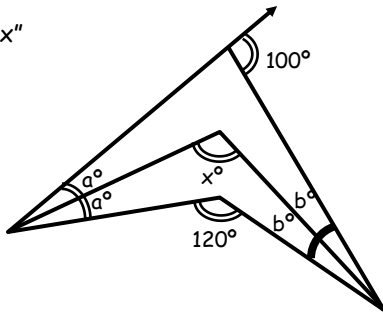
9. Calcular "x"

- a)  $20^\circ$
- b)  $15^\circ$
- c)  $18^\circ$
- d)  $12^\circ$
- e)  $10^\circ$



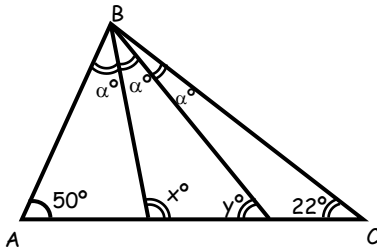
10. Determinar "x"

- a)  $100^\circ$
- b)  $80^\circ$
- c)  $160^\circ$
- d)  $120^\circ$
- e)  $135^\circ$



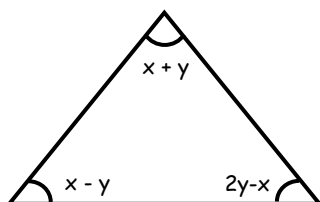
11. Del gráfico, calcular "x"

- a)  $28^\circ$
- b)  $56^\circ$
- c)  $20^\circ$
- d)  $30^\circ$
- e)  $10^\circ$



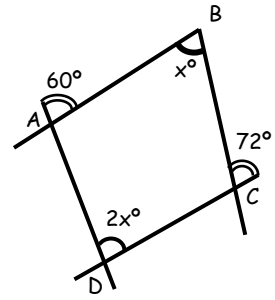
12. Calcular "x", si : "y" toma su mínimo valor entero.

- a)  $26^\circ$
- b)  $30^\circ$
- c)  $46^\circ$
- d)  $88^\circ$
- e) N.A.



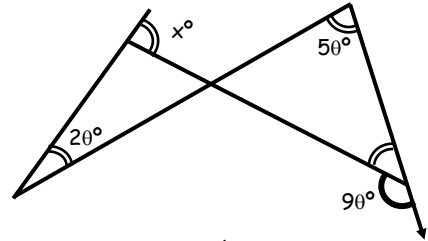
13. Calcular "x"

- a)  $20^\circ$
- b)  $24^\circ$
- c)  $36^\circ$
- d)  $72^\circ$
- e)  $64^\circ$



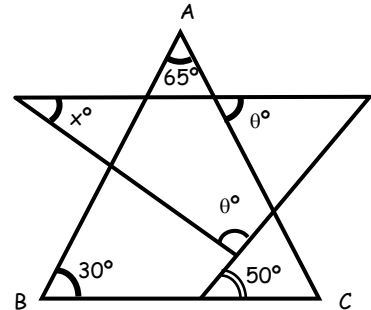
14. Calcular "x"

- a)  $90^\circ$
- b)  $60^\circ$
- c)  $30^\circ$
- d)  $20^\circ$
- e)  $0^\circ$



15. Calcular "x"

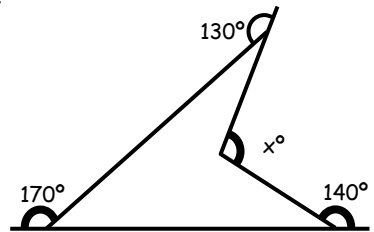
- a)  $10^\circ$
- b)  $30^\circ$
- c)  $45^\circ$
- d)  $65^\circ$
- e)  $85^\circ$



### TAREA DOMICILIARIA

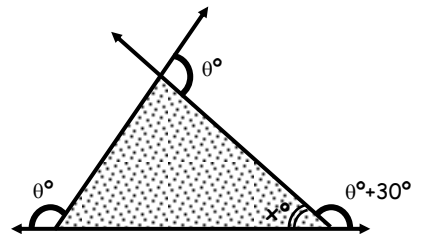
1. Determina "x"

- a)  $50^\circ$
- b)  $100^\circ$
- c)  $120^\circ$
- d)  $110^\circ$
- e)  $130^\circ$



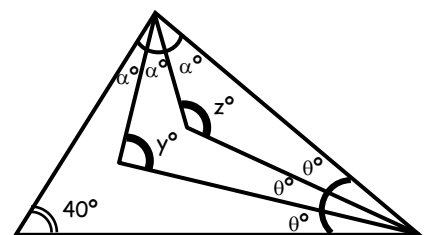
2. Del gráfico, calcular "x"

- a)  $20^\circ$
- b)  $30^\circ$
- c)  $40^\circ$
- d)  $80^\circ$
- e)  $110^\circ$



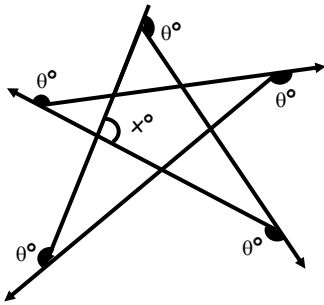
3. Calcular "x"

- a)  $100^\circ$
- b)  $180^\circ$
- c)  $200^\circ$
- d)  $260^\circ$
- e)  $360^\circ$



4. Calcular "x"

- a) 100°
- b) 108°
- c) 72°
- d) 144°
- e) 288°

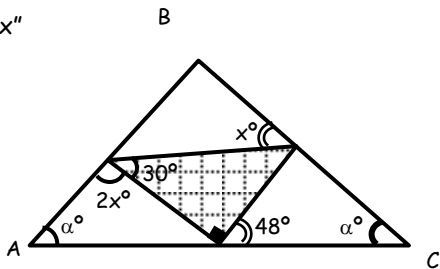


5. Calcular el máximo valor entero que puede tomar el tercer lado de un triángulo, sabiendo que dos de sus lados son 5 y 9.

- a) 13
- b) 14
- c) 11
- d) 6
- e) 5

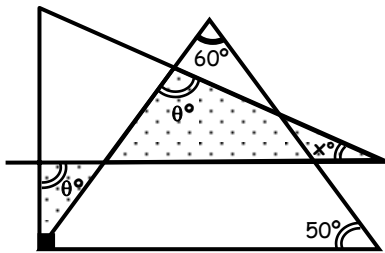
6. Calcular "x"

- a) 56°
- b) 64°
- c) 42°
- d) 24°
- e) 12°



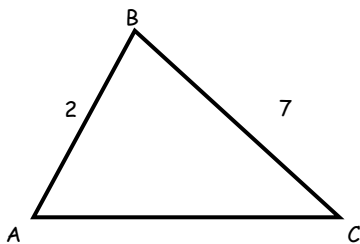
7. Calcular "x"

- a) 50
- b) 30
- c) 20
- d) 10
- e) 15



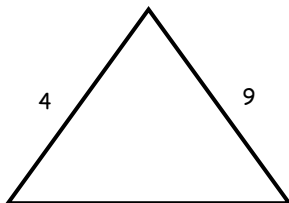
8. Calcular la suma de los valores pares que puede tomar  $\overline{AC}$ .

- a) 6
- b) 8
- c) 7
- d) 14
- e) 21



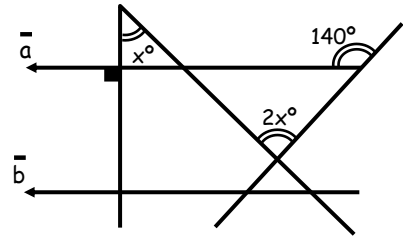
9. Calcular el mínimo valor que puede formar el perímetro del  $\triangle ABC$ .

- a) 29
- b) 19
- c) 10
- d) 8
- e) N.A.



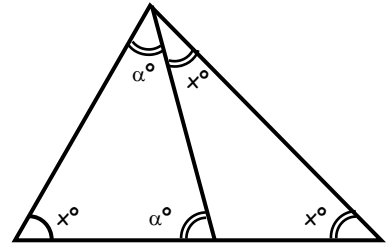
10. Calcular "x", si  $\bar{a} \parallel \bar{b}$

- a) 40°
- b) 30°
- c) 20°
- d) 70°
- e) 50°



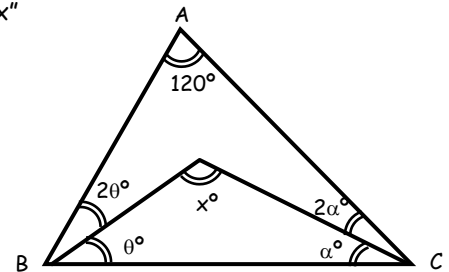
11. Calcular "x"

- a) 30°
- b) 72°
- c) 54°
- d) 36°
- e) 18°



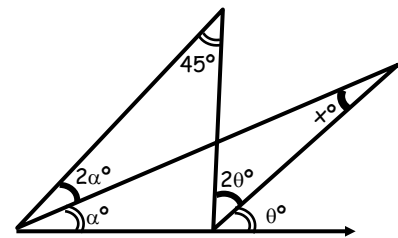
12. Calcular "x"

- a) 100°
- b) 150°
- c) 160°
- d) 170°
- e) 175°



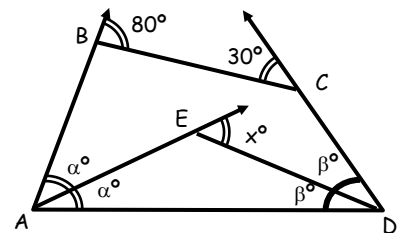
13. Calcular "x"

- a) 45°
- b) 30°
- c) 25°
- d) 15°
- e) 10°



14. Calcular "x"

- a) 50°
- b) 55°
- c) 60°
- d) 65°
- e) 70°



15. Calcular "x"

- a) 140°
- b) 40°
- c) 90°
- d) 60°
- e) 30°

