



Materiales Educativos GRATIS

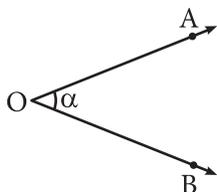
GEOMETRIA

PRIMERO

CLASIFICACIÓN DE LOS ÁNGULOS

Marco teórico

Un ángulo es una figura geométrica formada por la unión de dos rayos mediante un origen común, llamado vértice del ángulo. Los rayos son los lados del ángulo.



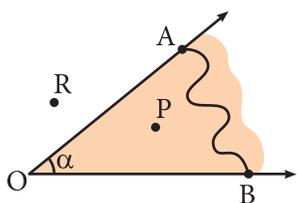
Elementos

- Lados : _____
- Vértice : _____

Notación:

- $\angle AOB$: ángulo AOB
- $m\angle AOB$: medida del ángulo AOB

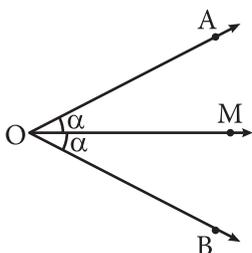
Observación:



Donde:

- «P»: pertenece a la región interior del ángulo.
- «R»: pertenece a la región exterior del ángulo.

La bisectriz es el rayo que biseca al ángulo



\vec{OM} : Bisectriz del $\angle AOB$

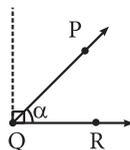
Si \vec{OM} es bisectriz del $\angle AOB$, se cumple:

$$m\angle AOM = m\angle MOB = \alpha$$

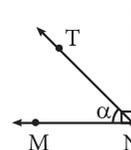
CLASIFICACIÓN DE LOS ÁNGULOS

Según sus medidas:

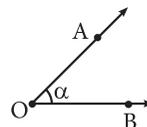
a) Ángulo agudo



$$0^\circ < \alpha < 90^\circ$$

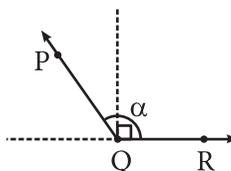


$$0^\circ < \beta < 90^\circ$$

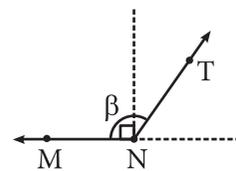


$$0^\circ < \theta < 90^\circ$$

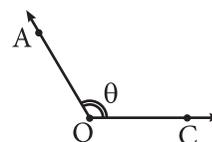
b) Ángulo obtuso



$$90^\circ < \alpha < 180^\circ$$

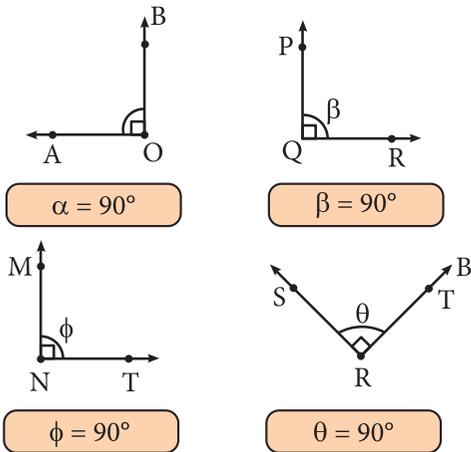


$$90^\circ < \beta < 180^\circ$$



$$90^\circ < \theta < 180^\circ$$

c) Ángulo recto

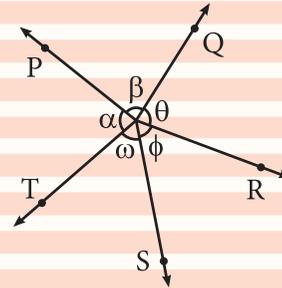
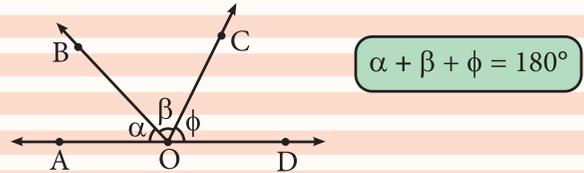


Veamos algunos ejemplos:

- Ángulos agudos
10°, 30°, 60°, 80°, 89°, etc.
- Ángulos obtusos
100°, 150°, 118°, 179°, 91°, etc.

• Recuerda que

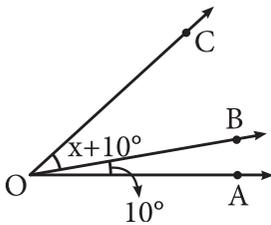
Según el gráfico. se cumple que:



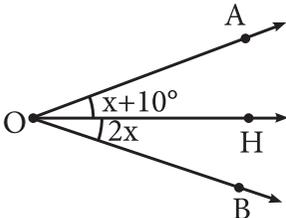
• Trabajando en Clase

Integral

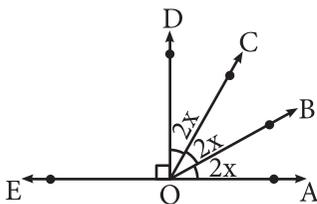
- Calcula "x", si:
 $m \sphericalangle AOC = 45^\circ$



- Calcula "x", si: OH es bisectriz.

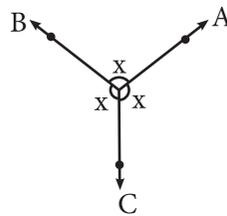


- Calcula "x"



PUCP

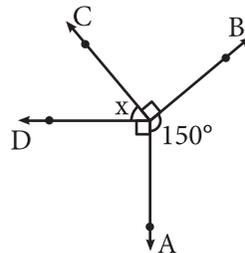
- Calcula "x"



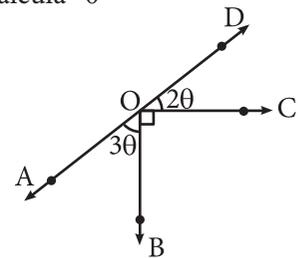
Resolución:

Nos piden: "x"
Del gráfico:
 $x + x + x = 360^\circ$
Por tanto:
 $3x = 360^\circ$
 $x = 120^\circ$

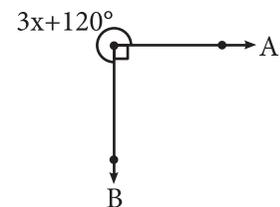
- Calcula "x"



- Calcula "theta"

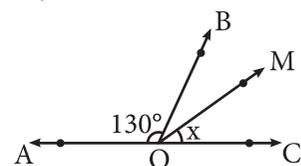


- Calcula "x"



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- Si OM es bisectriz del ángulo BOC, calcula "x"

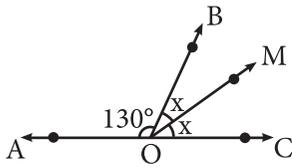


Resolución:

Nos piden: "x"

Como OM es bisectriz

$$\Rightarrow m \sphericalangle BOM = m \sphericalangle MOC = x$$

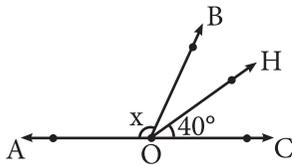


$$\text{Luego: } 130^\circ + x + x = 180^\circ$$

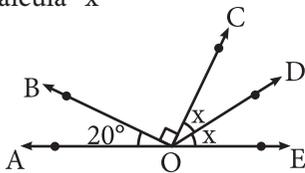
$$2x = 50^\circ$$

$$\text{Por tanto: } x = 25^\circ$$

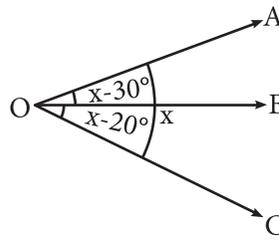
9. Calcula "x", si OH es bisectriz del ángulo BOC.



10. Calcula "x"

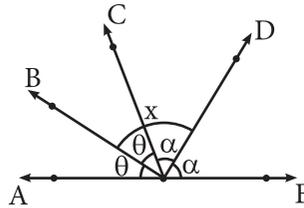


11. Calcula "x"



UNI

12. Calcula "x".



Resolución:

Nos piden: "x"

Del gráfico:

$$\theta + \alpha = x \dots (1)$$

$$\text{Además: } 2\theta + 2\alpha = 180^\circ$$

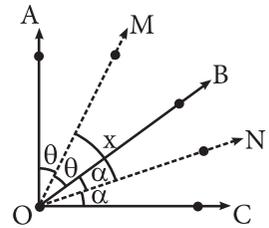
$$\theta + \alpha = 90^\circ \dots (2)$$

Reemplazando (1) en (2)

$$\theta + \alpha = 90^\circ$$

$$\text{Por tanto: } x = 90^\circ$$

13. Calcula "x".



14. Calcula: $m \sphericalangle BOC$.

