

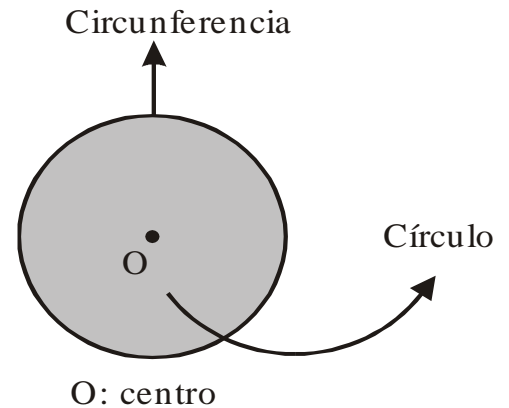


CIRCUNFERENCIA

¿Es lo mismo circunferencia que círculo? **NO**

◇ **Circunferencia.**- Es la línea curva cerrada cuyos puntos equidistan de otro punto fijo llamado CENTRO.

◇ **Círculo.**- Es la área delimitada por la circunferencia.



I. LÍNEAS NOTABLES EN LA CIRCUNFERENCIA

1. **Centro: O**

2. **Radio:** (\overline{OC}) Es la distancia del centro a cualquier punto de la circunferencia, es decir, es el doble del radio.

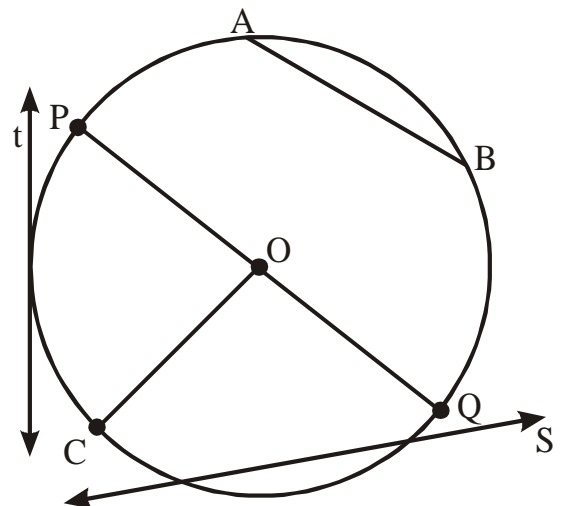
3. **Diámetro :** (\overline{PQ}) Es el segmento que pasa por el centro de la circunferencia, es decir es el doble del radio.

4. **CUERDA:** (\overline{AB}) Es un segmento que une dos puntos de la circunferencia.

5. **Arco** (\overline{AB}) : es una porción de la circunferencia.

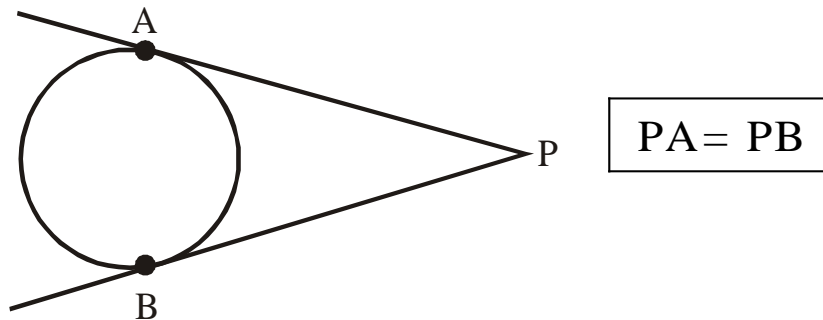
6. **Recta Tangente** (\overline{t}) : Es una recta que toca en un punto a la circunferencia.

7. **Recta Secante** (\overline{s}) : Es una recta que corta en 2 puntos a la circunferencia.



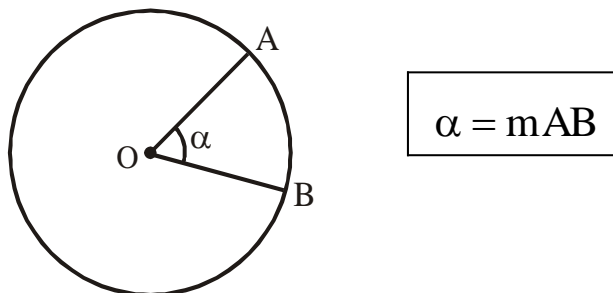
II. TEOREMA DE LAS DOS TANGENTES

Si desde un punto exterior se trazan dos tangentes a una misma circunferencia, los segmentos tangente comprendidos entre los puntos de tangencia y el punto exterior son congruentes (iguales).

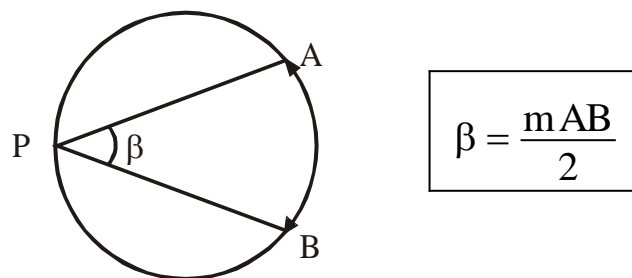


III. TEOREMAS FUNDAMENTALES

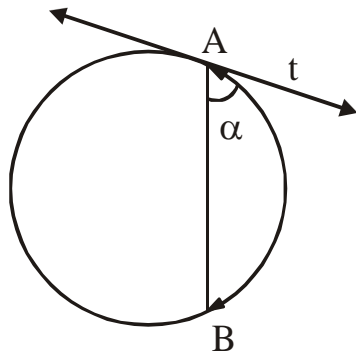
1) Ángulo Central



2) Ángulo Inscrito

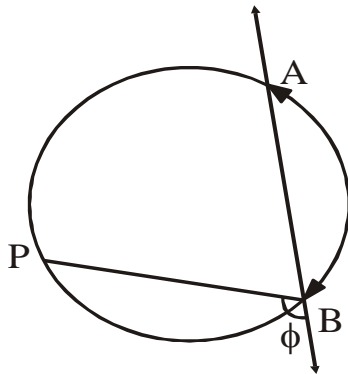


3) Ángulo Semi-Inscrito



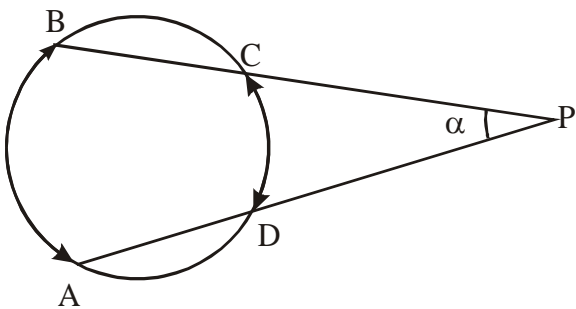
$$\alpha = \frac{mAB}{2}$$

4) Ángulo Ex-Inscrito

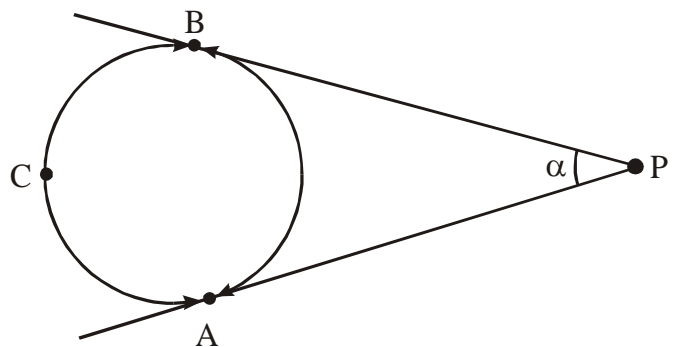


$$\phi = \frac{mABP}{2}$$

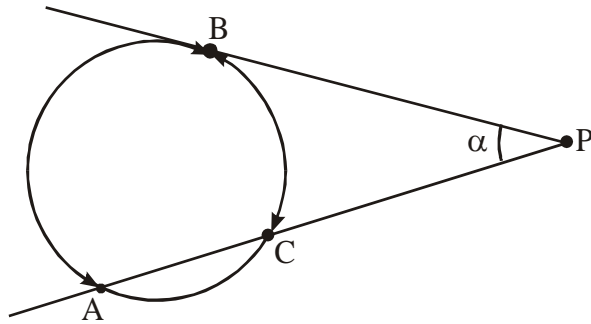
5) Ángulos Exteriores:



$$\alpha = \frac{mAB - mCD}{2}$$

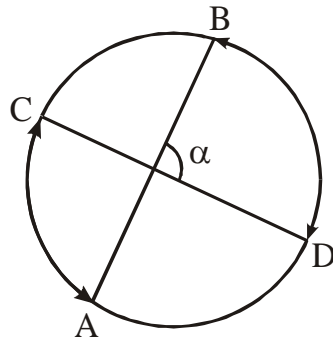


$$\alpha = \frac{mACB - mAB}{2}$$



$$\alpha = \frac{mAB - mBC}{2}$$

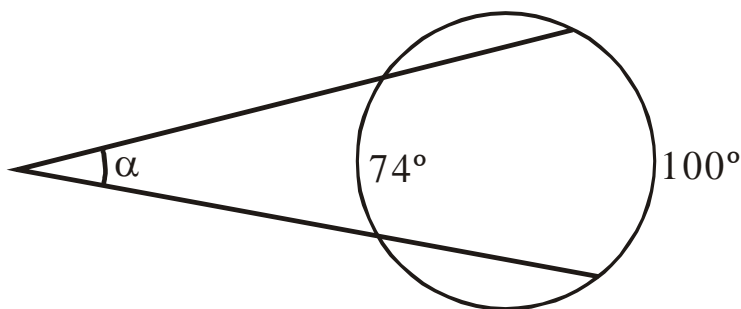
6. Ángulo Interior:



$$\alpha = \frac{mAC - mBD}{2}$$

EJEMPLOS :

1. Hallar el valor x de en:

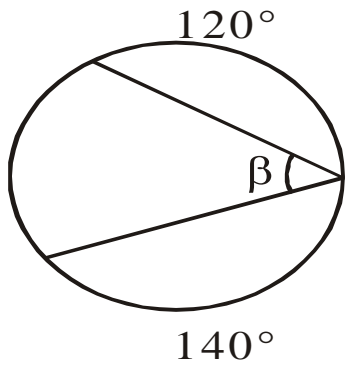


Solución :

$$\alpha = \frac{100^\circ - 74^\circ}{2} = \frac{26^\circ}{2}$$

$$\alpha = 13^\circ$$

2. Halla el valor de β :



Solución :

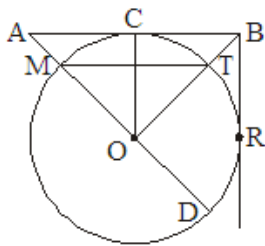
$$360^\circ - (120^\circ + 140^\circ) = 360^\circ - 260^\circ = 100^\circ$$

$$\beta = \frac{100}{2}$$

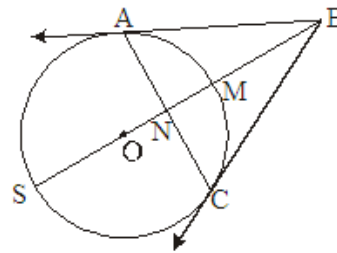
$$\boxed{\beta = 50^\circ}$$

I. En las siguientes figuras, determinar los elementos de la circunferencia llenando el cuadrado adjunto :

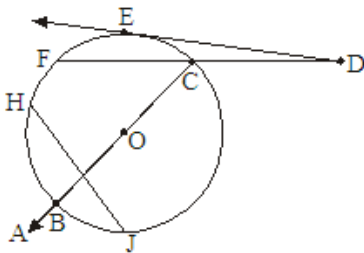
1.



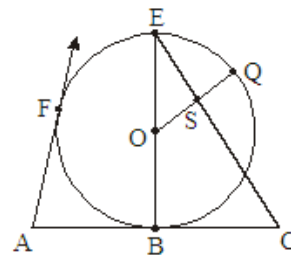
2.



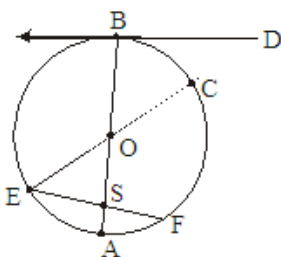
3.



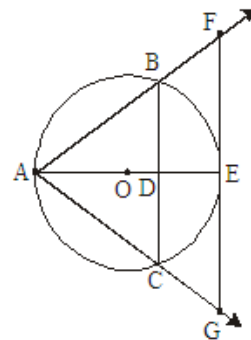
4.



5.



6.

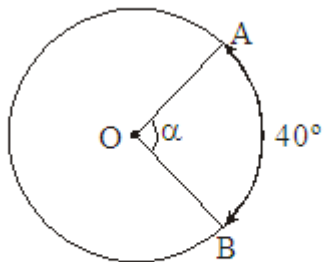


CIRCULO EDUCATIVO

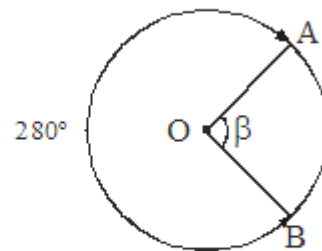
N°	CUERDA	DIÁMETRO	SECANTE	TANGENTE	ARCO	RADIO
1						
2						
3						
4						
5						
6						

II. Resolver :

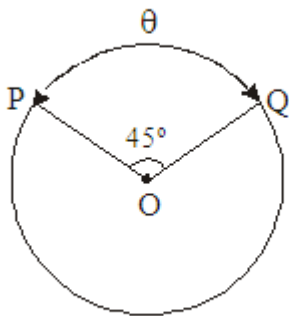
1. En la figura, calcular α . Si O es centro



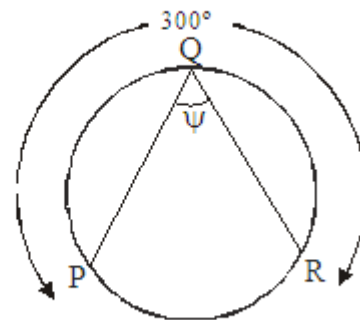
2. En la figura, calcular β . Si O es centro



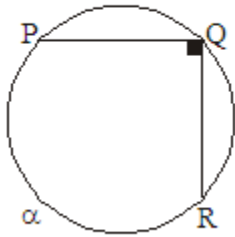
3. En la figura, calcular θ . Si O es centro.



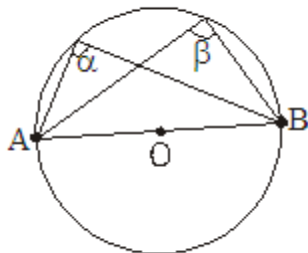
4. Del gráfico, calcular ψ



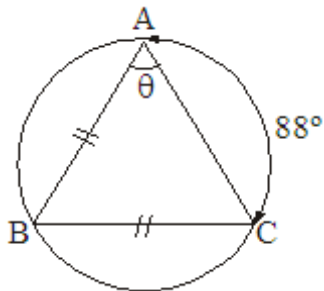
5. De la figura, calcular α .



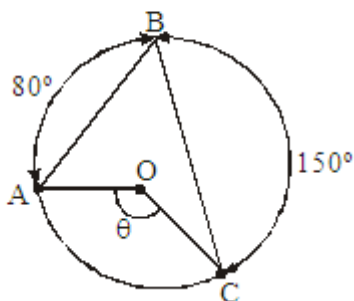
6. De la figura, calcular $(\alpha + \beta)$. Si O es centro



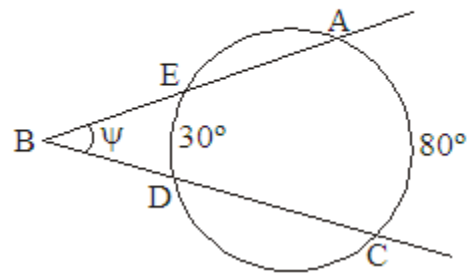
7. En la figura, calcular θ .



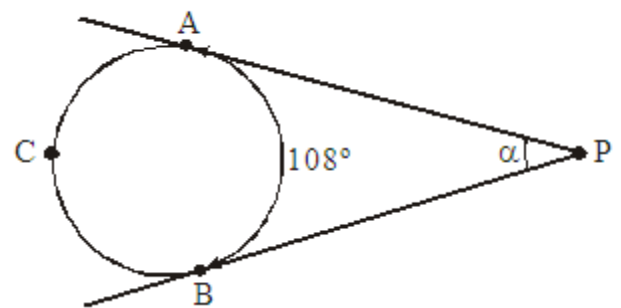
8. En la figura, calcular θ . Si O es el centro.



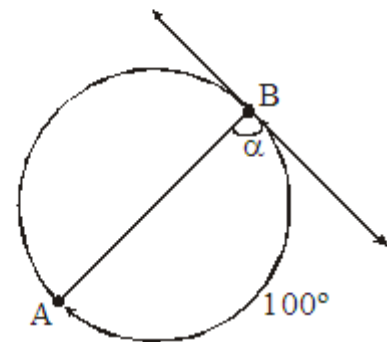
9. Del gráfico, hallar ψ .



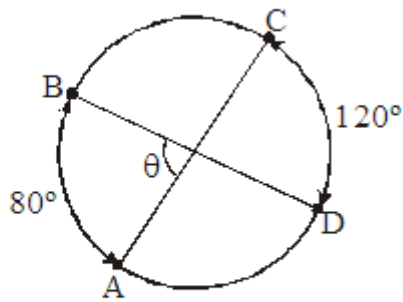
10. Hallar el valor de α .



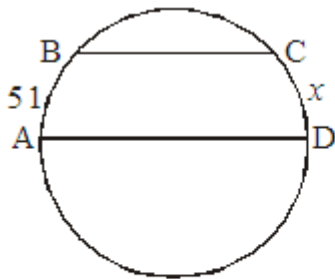
11. Hallar α .



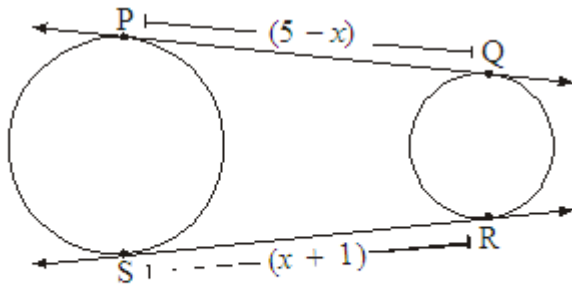
12. Hallar el valor de θ .



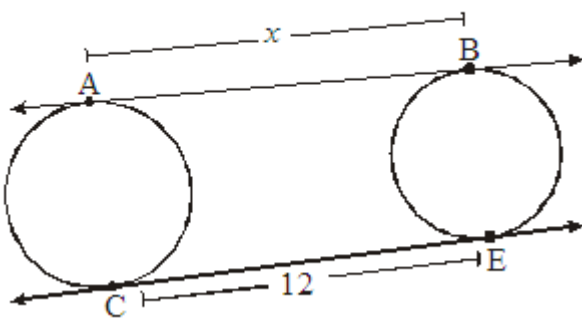
13. Hallar el valor de x . Si $(\overline{BC} \parallel \overline{AD})$



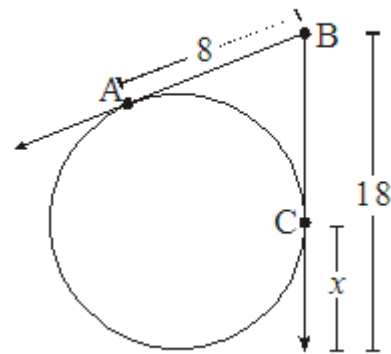
14. Hallar el valor de x .



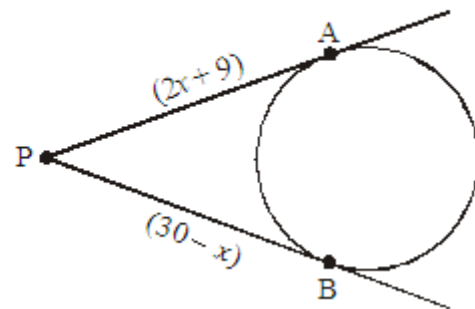
15. Hallar el valor de x .



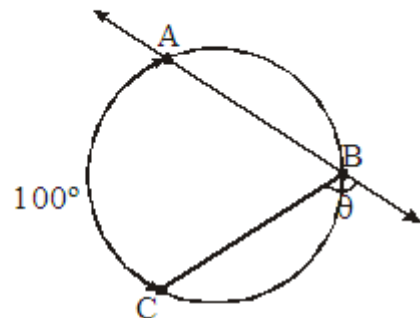
16. Hallar el valor de x



17. Halla el valor de x .



18. Hallar el valor de θ .



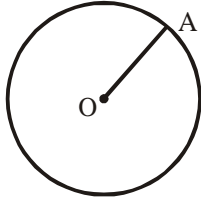
CIRCULO EDUCATIVO

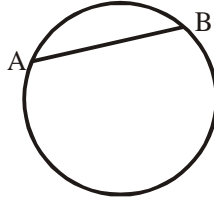


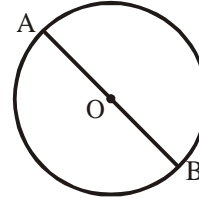
TRABAJEMOS EN CASA

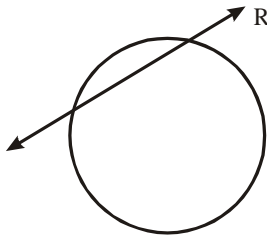


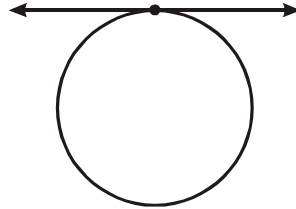
1. Distingue las líneas notables en las siguientes circunferencias :

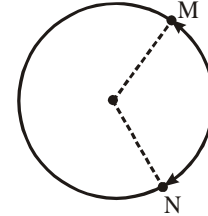






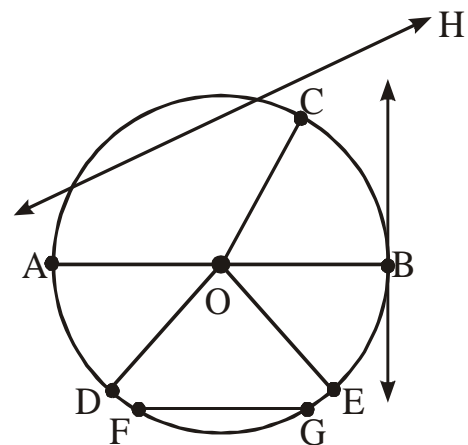






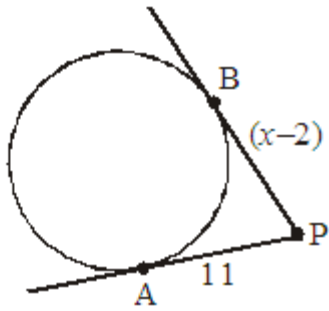
2. Escribe el nombre de cada elemento:

- \overline{AB} : _____
- \vec{H} : _____
- \overline{OC} : _____
- \overline{FG} : _____
- \overline{OE} : _____
- \overline{OD} : _____
- \overline{OA} : _____
- \overline{OB} : _____
- $\vec{e}B$: _____
- $\vec{A}D$: _____
- \vec{n} : _____
- O : _____

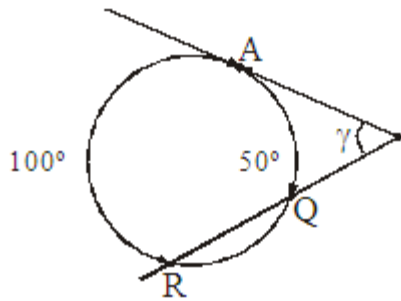


CIRCULO EDUCATIVO

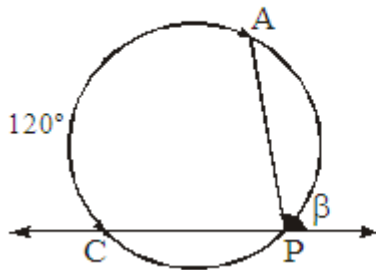
3. Calcular el valor de x



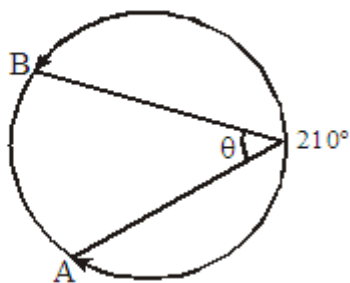
4. Del gráfico, calcular γ



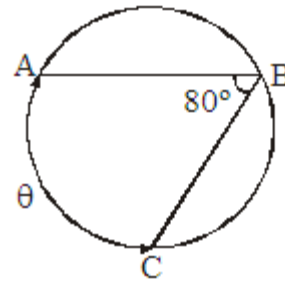
5. En la figura, calcular β



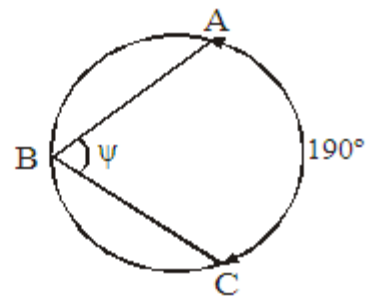
6. Del gráfico, calcular θ



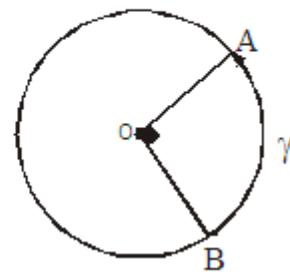
7. Del gráfico, calcular θ



8. Del gráfico, calcular ψ



9. En la figura, calcular γ . Si O es centro.



10. En la figura, calcular β

