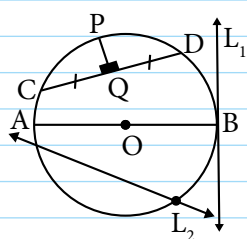




PROPIEDADES DE LA CIRCUNFERENCIA

DEFINICIÓN

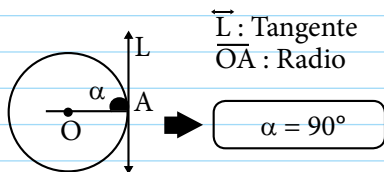


Elementos:

- Radio: AO, OB
- Diámetro: $\overline{AB}$
- Cuerda: $\overline{CD}$
- Recta tangente: $\overline{L_1}$
- Recta secante: $\overline{L_2}$
- Flecha: $\overline{PQ}$
- Arco: $\widehat{AC}$

PROPIEDADES

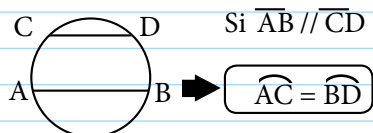
1)



$\overline{L}$: Tangente
 $\overline{OA}$: Radio

$$\alpha = 90^\circ$$

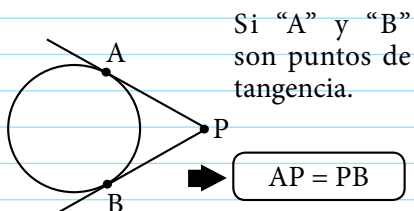
2)



Si $\overline{AB} \parallel \overline{CD}$

$$\widehat{AC} = \widehat{BD}$$

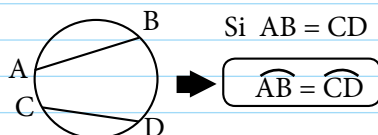
3)



Si "A" y "B" son puntos de tangencia.

$$AP = PB$$

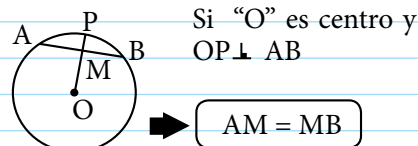
4)



Si $AB = CD$

$$\widehat{AB} = \widehat{CD}$$

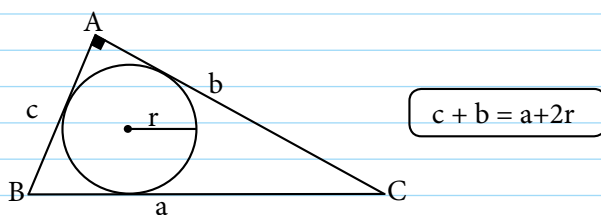
5)



Si "O" es centro y
 $OP \perp AB$

$$AM = MB$$

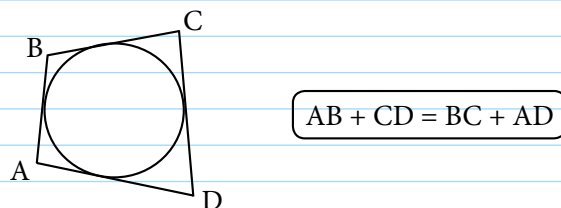
TEOREMAS DE PONCELET



$$c + b = a + 2r$$

En todo triángulo rectángulo, la suma de los catetos es igual a la hipotenusa más el diámetro.

TEOREMA DE PITOT



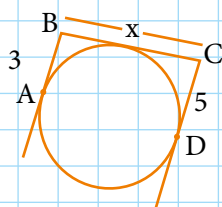
$$AB + CD = BC + AD$$

En todo cuadrilátero circunscrito a una circunferencia se cumple que la suma de los lados opuestos es igual a la suma de los otros dos lados opuestos.

Trabajando en Clase

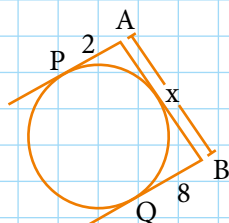
Nivel I

1. En la figura, A y D son puntos de tangencia. Halla "x".



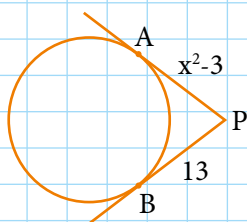
- a) 4 b) 5 c) 6
d) 7 e) 8

2. Si P y Q son puntos de tangencia, halla x.



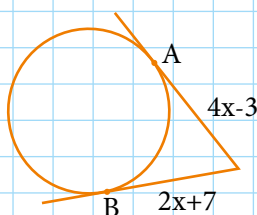
- a) 7 b) 9 c) 10
d) 11 e) 13

3. Halla x si A y B son puntos de tangencia.



- a) 10 b) 8 c) 6
d) 4 e) 2

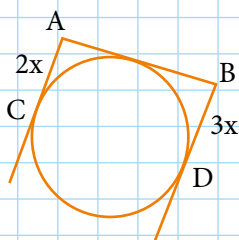
4. Halla 2x si A y B son puntos de tangencia.



- a) 8 b) 5 c) 6
d) 10 e) 12

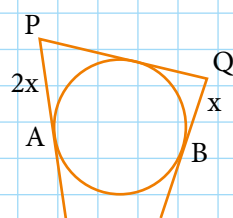
Nivel II

5. Calcula "x" si $AB = 20$.



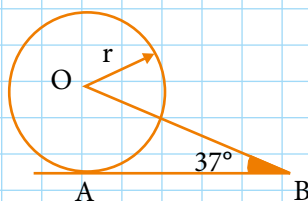
- a) 2 b) 3 c) 4
d) 5 e) 6

6. Calcula "x" si $PQ = 9$.



- a) 1 b) 2 c) 3
d) 4 e) 5

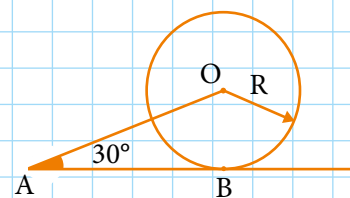
7. Calcula "r" si $AB = 8$.



- a) 4 b) 6 c) 8
d) 2 e) 5

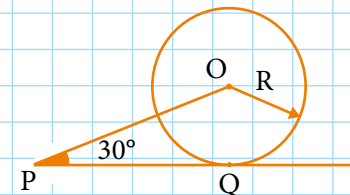
Nivel III

8. Calcula "R" si $AO = 12$.



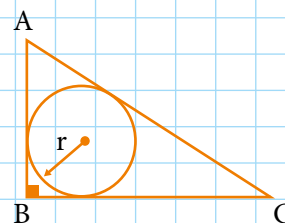
- a) 2 b) 4 c) 5
d) 6 e) 7

9. Calcula "R" si $PO = 20$.



- a) 5 b) 8 c) 10
d) 12 e) 14

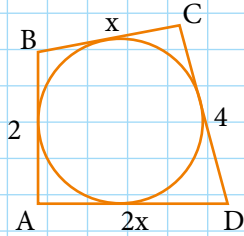
10. Calcula "r" si $AB = 7$ y $BC = 24$.



- a) 2 b) 3 c) 4
d) 5 e) 6

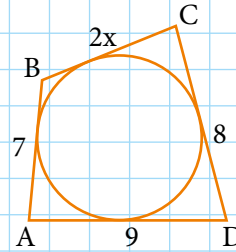
Tarea domiciliaria N° 5

1. Halla x .



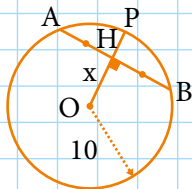
Rpta :

2. Halla x .



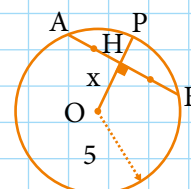
Rpta :

3. Halla x si $AB = 16$.



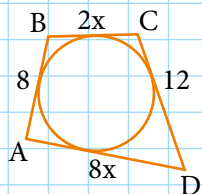
Rpta :

4. Halla x si $AB = 8$.



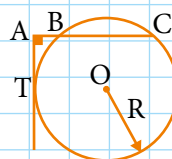
Rpta :

5. Calcula "x".



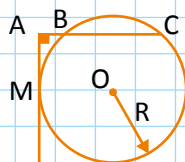
Rpta :

6. Si $AC = 26$ y $BC = 22$, calcula "R". Además "T" es punto de tangencia.



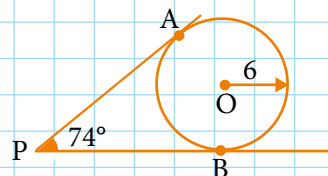
Rpta :

7. Si $AC = 12$ y $BC = 10$, calcula "R". Considera "M" punto de tangencia.



Rpta :

8. Calcula PA si "A" y "B" son puntos de tangencia.



Rpta :