Arcos e Ângulos na Circunferência

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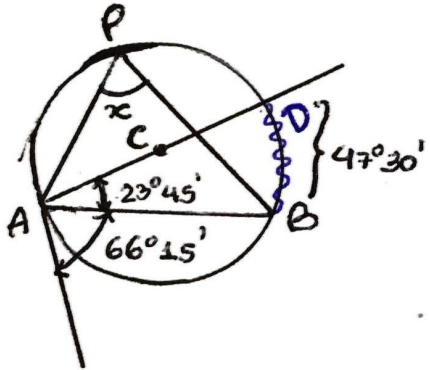
(1)



DÂB

↳ ângulo inscrito

arco DB = 23°45' * 2

DB = 47°30' ///

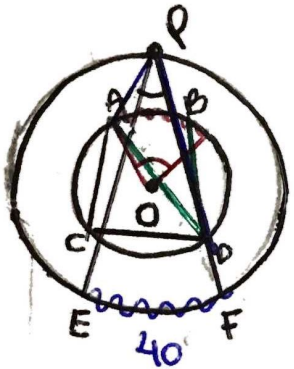
arco AB:

↳ AD é o comprimento da semi circunferência:

AB = 180° - 47°30'

AB = 132°30' ///

(2)



$E\hat{P}F = \frac{40}{2}$

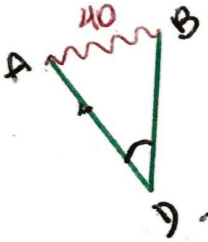
$E\hat{P}F = 20°$

↳ o ângulo $\hat{P}$ está inscrito na circunferência maior.

$A\hat{O}B = \frac{40}{2}$

$A\hat{O}B = 20°$

$A\hat{D}B =$

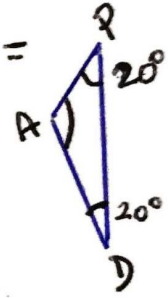


$A\hat{D}B = \frac{40°}{2}$

$A\hat{D}B = 20°$

↳ segmentos que escrevi com os pontos inscritos na menor circun.

$P\hat{A}D =$

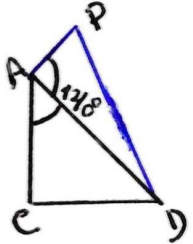


↳ triângulo montado com A, P, D.

$P\hat{A}D = 180° - 20° - 20°$

$P\hat{A}D = 140°$

$C\hat{A}D =$



$C\hat{A}D$, é ângulo externo de $P\hat{A}D$:

$C\hat{A}D = 180° - 140°$

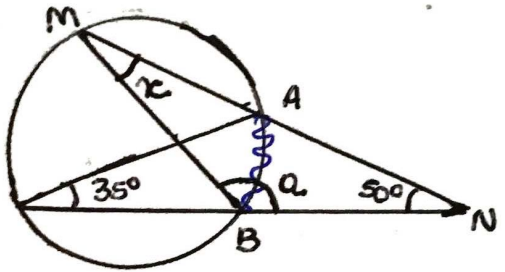
$C\hat{A}D = 40°$ //

* $C\hat{A}D$ é inscrito na menor circunferência, oposto para $\overline{CD}$, então:

$CD = 40° \cdot 2$

$CD = 80°$

(3)



$\overline{AB} = 35° * 2$

↳ $\overline{AB} = 70°$

↳ $35°$ é inscrito na circunferência.

$x = \frac{70°}{2}$

$x = 35°$

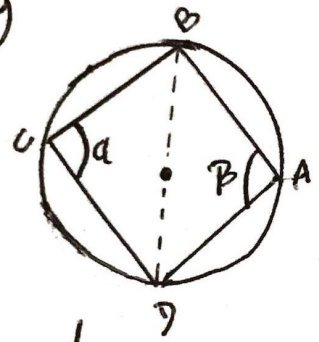
↳ $\overline{AB}$ é oposto do ângulo inscrito x.

$\triangle M\hat{B}N = 180° - 50° - x$

$= 180° - 50° - 35°$

$= 95°$

(47)



↳ a soma interna dos ângulos de um quadrilátero é 360°.

os ângulos α e β são inscritos, então:

$$\alpha = \frac{\overline{BAD}}{2} \qquad \beta = \frac{\overline{BCD}}{2}$$

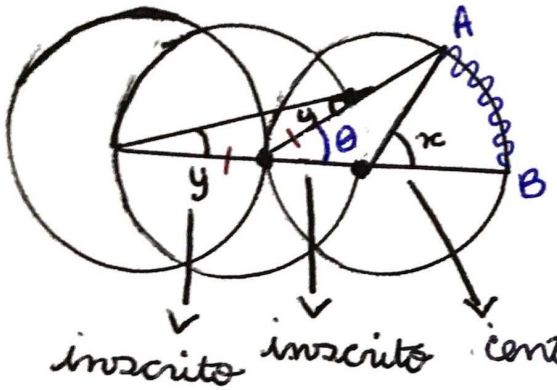
$$\alpha + \beta = \frac{\overline{BAD}}{2} + \frac{\overline{BCD}}{2}$$

$$= \frac{BAD + BCD}{2} = \frac{360^\circ}{2}$$

$$= \overline{BAD} + \overline{BCD} = 180^\circ$$

$$180^\circ = \frac{\pi}{2}$$

(5)



θ = ângulo externo

θ = y + y = 2y

$\overline{AB} = 2\theta$

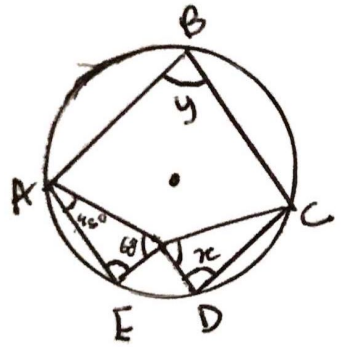
$\overline{AB} = 4y$

$x = 4y$

$y = \frac{x}{4}$

os segmentos adjacentes ao ângulo y, são os raios, portanto, ambos tem o mesmo ângulo y.

(6)



$A\hat{E}C = 180° - (45° + 60°)$

$A\hat{E}C = 75°$

↳ o ângulo x enxerga $\overline{ABC}$, assim como o $A\hat{E}C$, então:

$x = 75°$

↳ y está oposto a $\overline{AEDC}$, então:

$$y = \frac{210°}{2} = 105°$$

como AEC está inscrito e oposto, $\overline{ABC}$ será:

$75° * 2 = 105°$

$\overline{AEDC} = 360° - 105°$

$\overline{AEDC} = 210°$