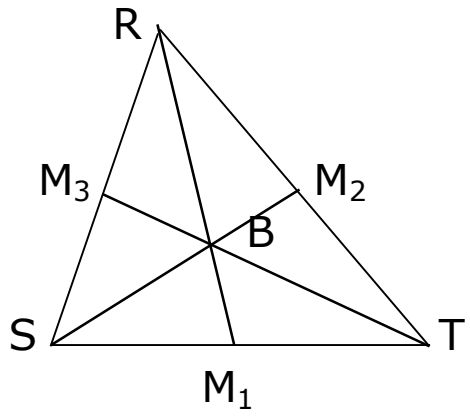
MATEMÁTICA

Aula 21

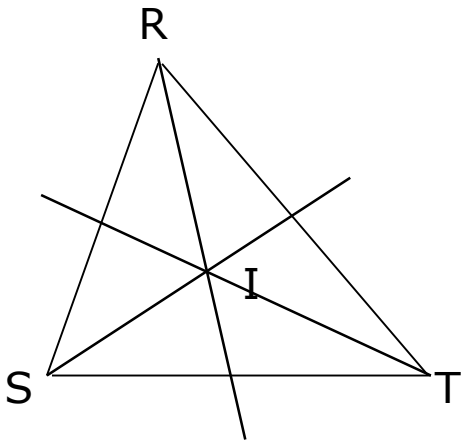
Pontos Notáveis de Triângulos

Baricentro

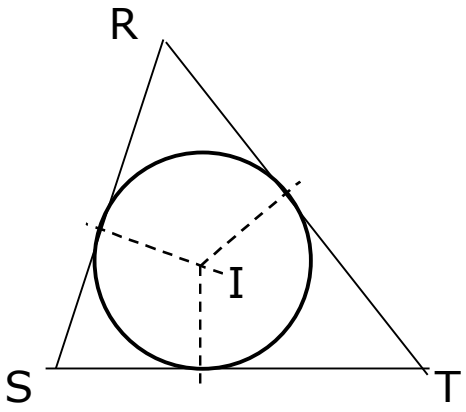


$$\frac{RB}{BM_1} = \frac{SB}{BM_2} = \frac{TB}{BM_3} = \frac{2}{1}$$

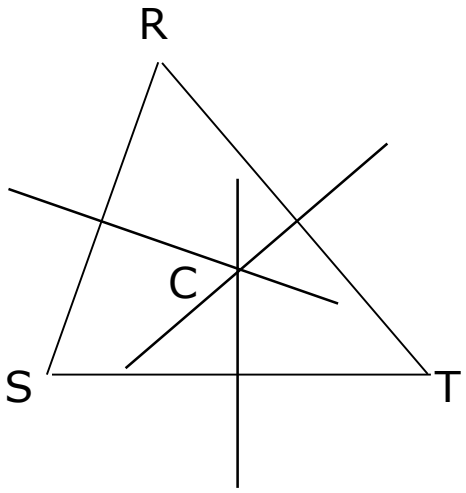
Incentro



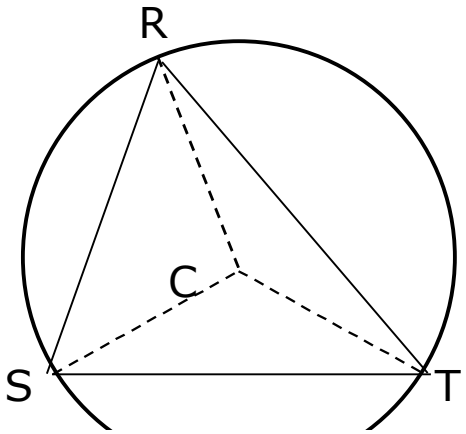
Incentro



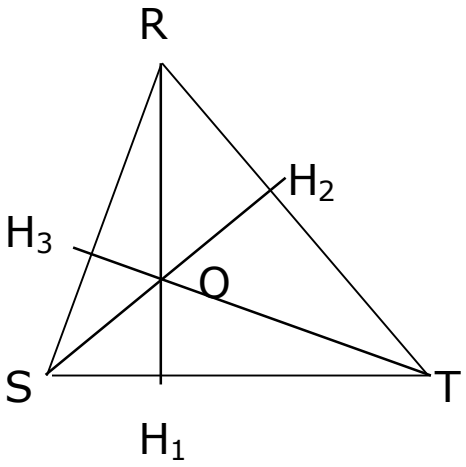
Circuncentro



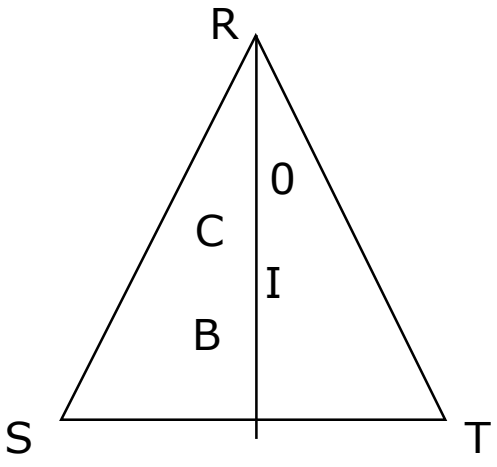
Circuncentro



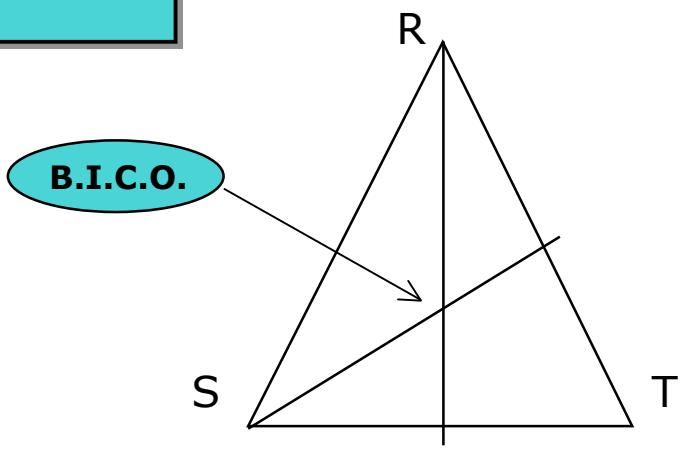
Ortocentro



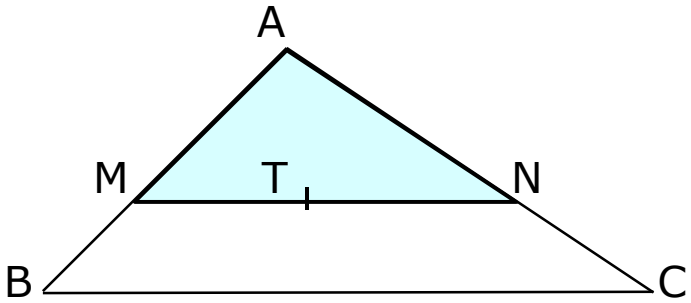
Isósceles



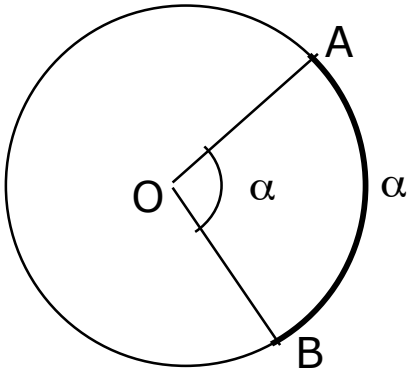
Eqüilátero



EX.1 Determinar o perímetro do triângulo AMN da figura, onde AB e AC medem 2cm e 3cm respectivamente, sendo *T* o incentro do triângulo ABC e MN paralelo à BC.

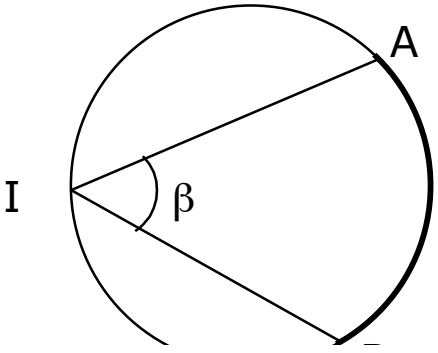


Ângulo Central

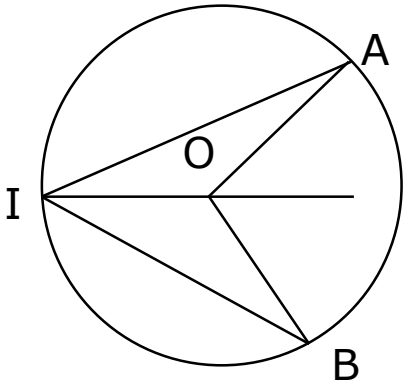


$\alpha = med(\overset{\frown}{AB})$

Ângulo Inscrito



$\beta = med(A\hat{I}B)$



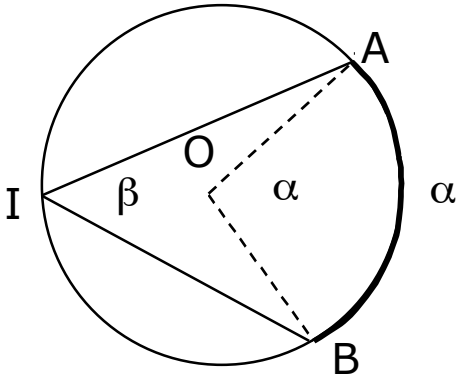
$\beta = x + y$

$\alpha = 2x + 2y$

$\alpha = 2.(x + y)$

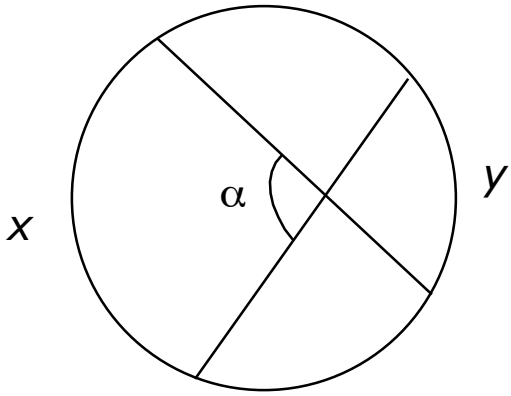
$\alpha = 2.\beta$

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

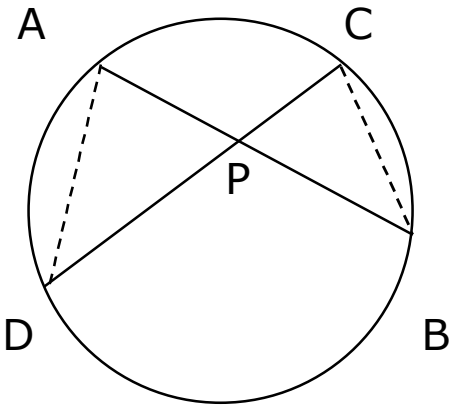


$$\beta = \frac{\alpha}{2}$$

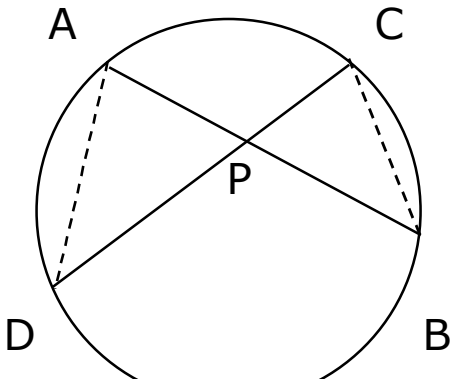
2) Qual a relação existente entre a medida α do ângulo excêntrico interior e as medidas x e y da figura?



Potência de Ponto



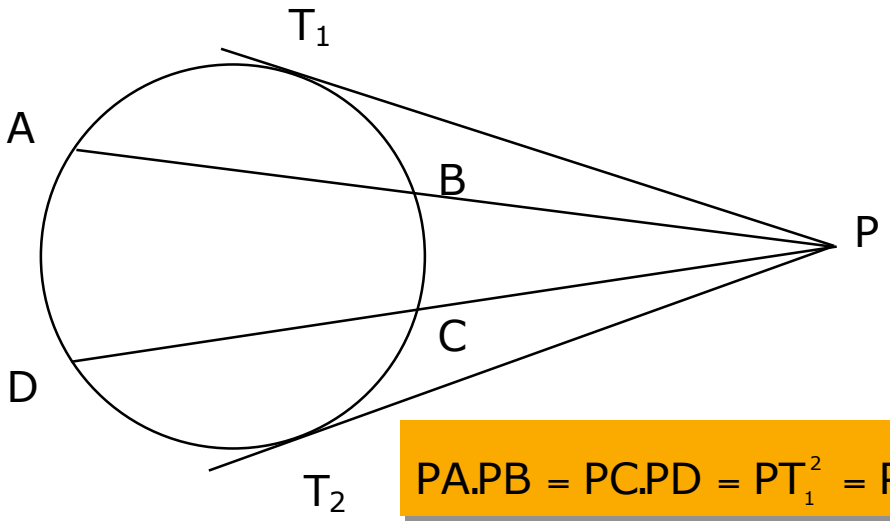
$$\begin{cases} \text{Em } P: \text{o.p.v.} \\ \text{med}\,\hat{A} = \text{med}\,\hat{C} = \dfrac{\text{med}\,\overset{\frown}{BD}}{2} \end{cases}$$



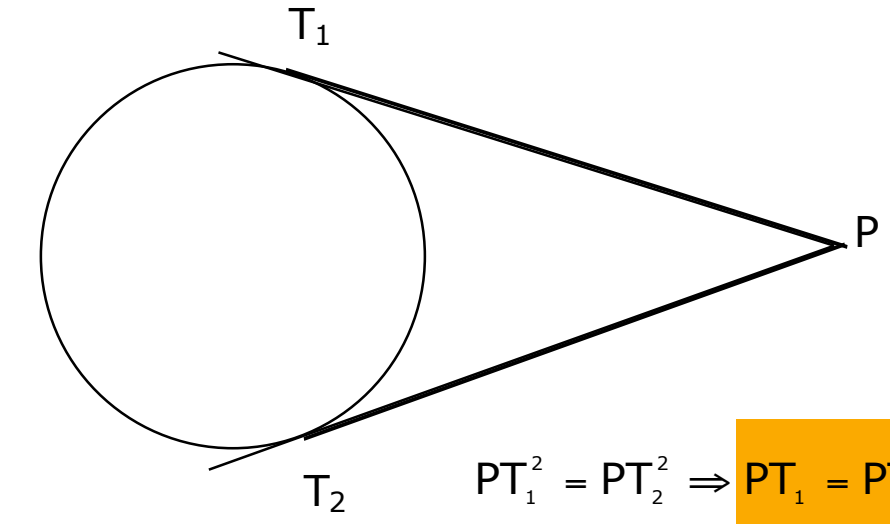
$\underline{\Delta PAD \sim \Delta PCB}$ (AA ~)

$$\Rightarrow \frac{PA}{PC} = \frac{PD}{PB}$$

$$\therefore \boxed{PA.PB = PC.PD}$$

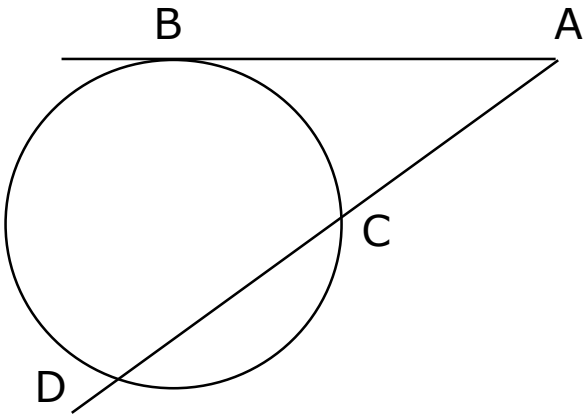


$$PA.PB = PC.PD = PT_1^2 = PT_2^2$$



$$PT_1^2 = PT_2^2 \Rightarrow PT_1 = PT_2$$

3) De um ponto exterior a uma circunferência, são traçadas uma tangente e uma secante, conforme a figura. A tangente AB mede 10m e as medidas de AC e CD são iguais. Qual a medida da secante AD?



Respostas:

1) 5cm.
2) A média entre x e y, isto é, x mais y sobre 2.
3) $10\sqrt{2}$ m.