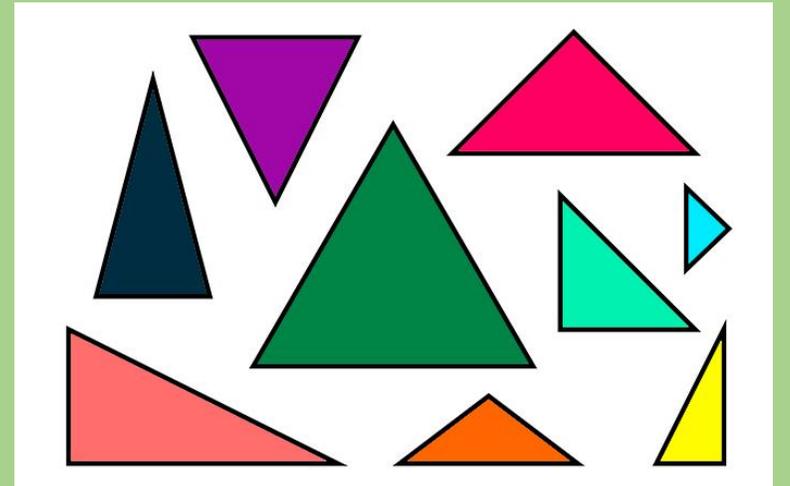




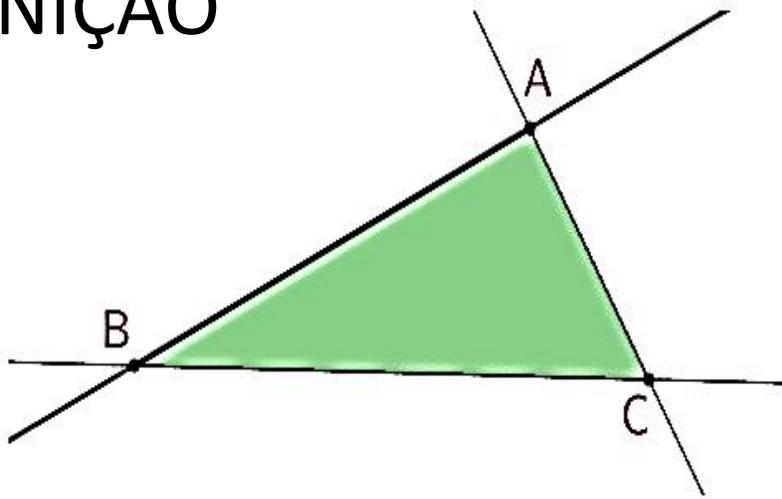
CENTRO EDUCACIONAL MARAPENDI – CEMP

GEOMETRIA – Prof. Clovis Reis

# TRIÂNGULOS



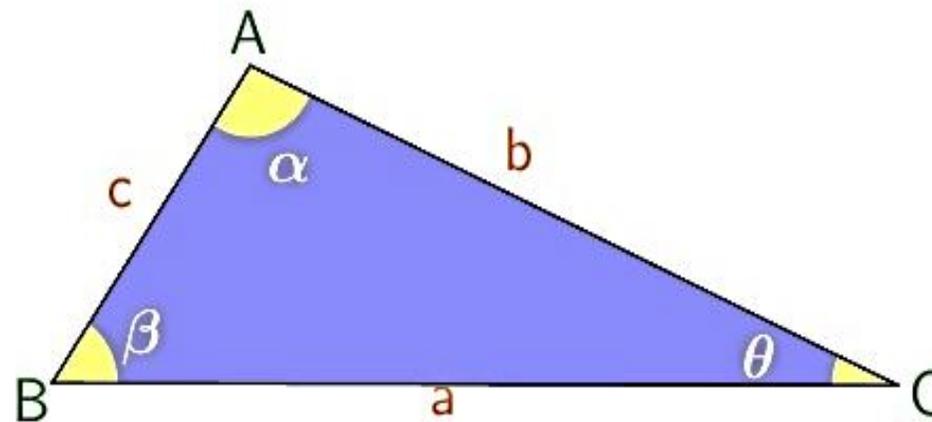
# 1. DEFINIÇÃO



É um polígono que possui 3 lados, 3 vértices e 3 ângulos internos.

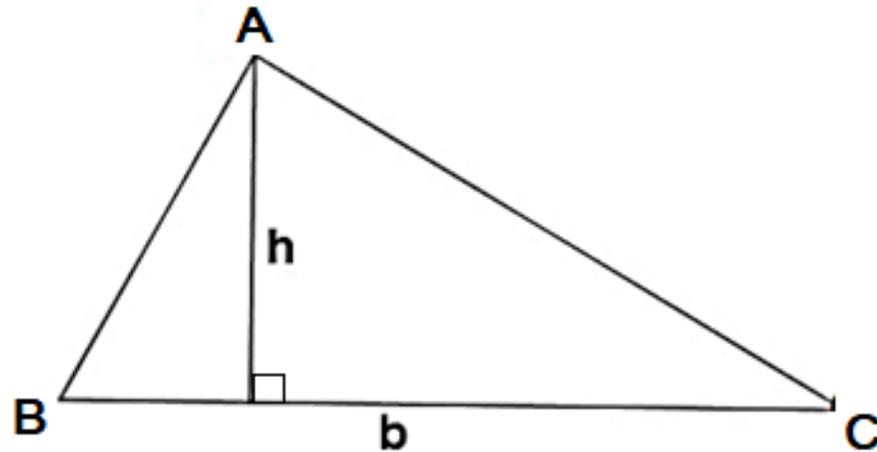
# 2. ELEMENTOS DE UM TRIÂNGULO

- Vértices: A, B, C
- Lados:  $AB = c$ ;  $AC = b$ ;  $BC = a$
- Ângulos (internos):  $\alpha$ ,  $\beta$ ,  $\theta$

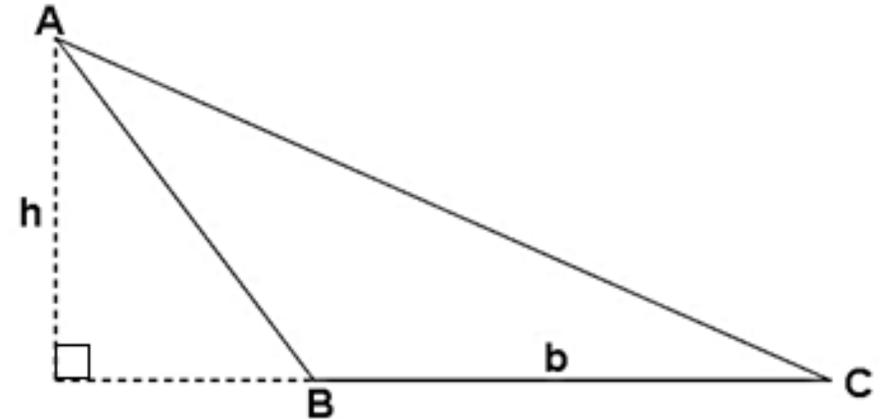


❖ Outros elementos de um triângulo:

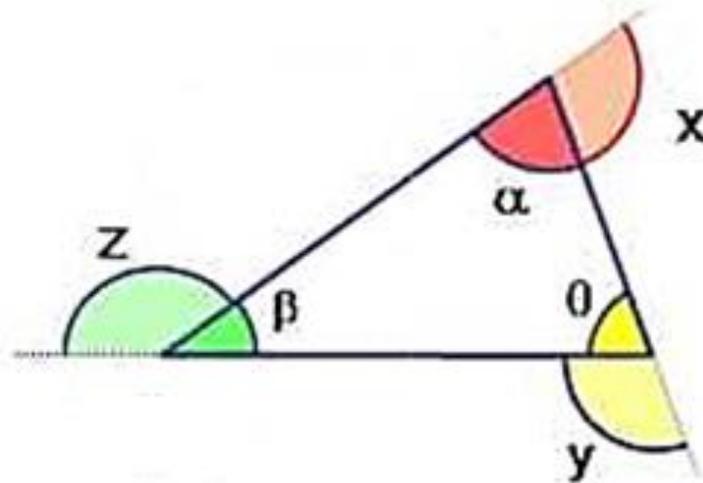
- Altura



Altura h relativa ao lado BC.

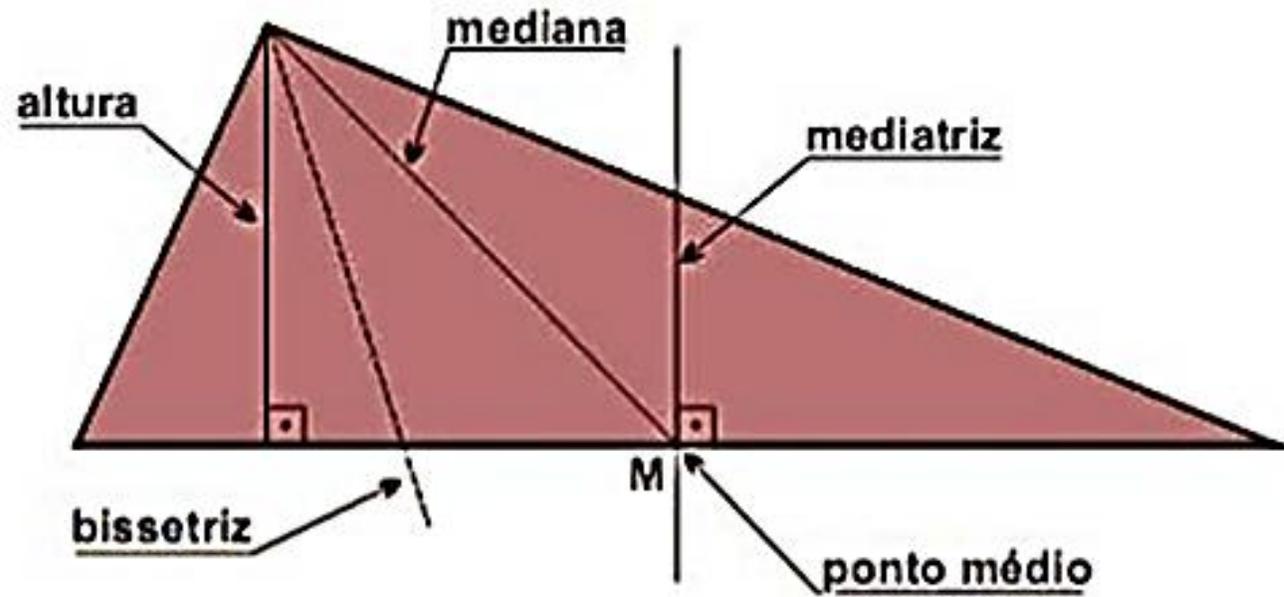


- Ângulos externos



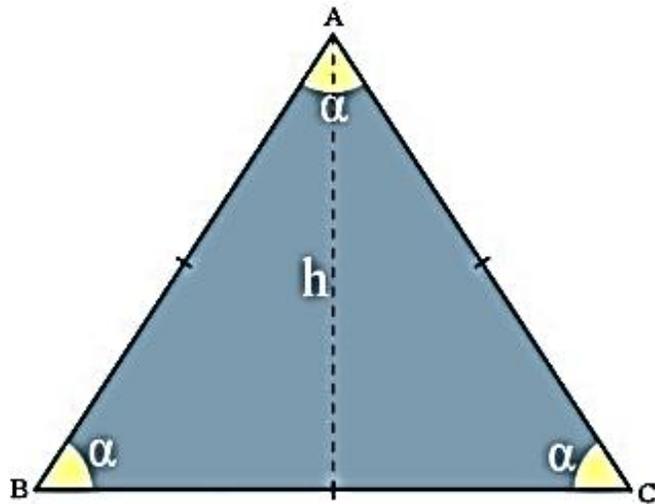
- Cevianas:

- Altura;
- Mediana;
- Bissetriz.

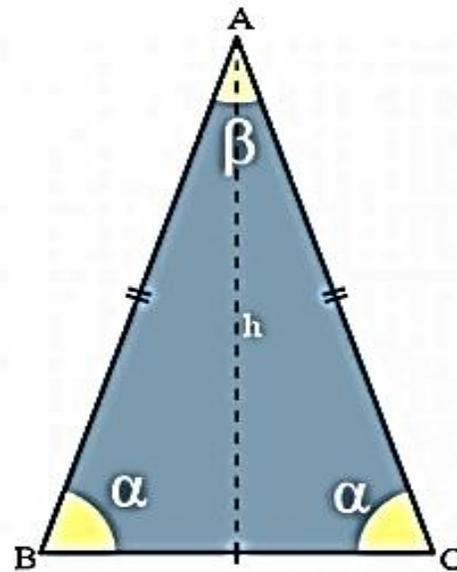


### 3. CLASSIFICAÇÃO DOS TRIÂNGULOS

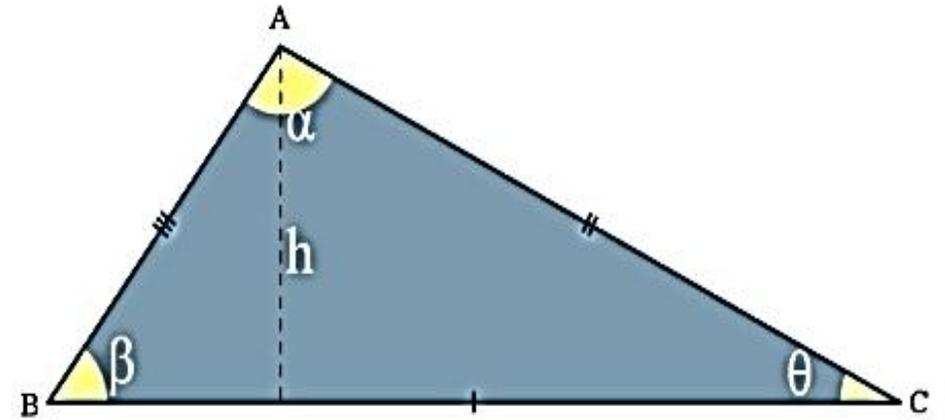
#### 3.A) Quanto aos lados



**T. EQUILÁTERO**

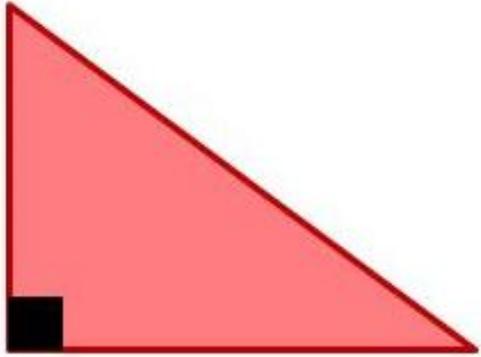


**T. ISÓSCELES**

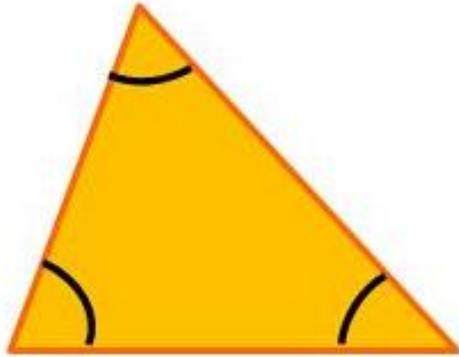


**T. ESCALENO**

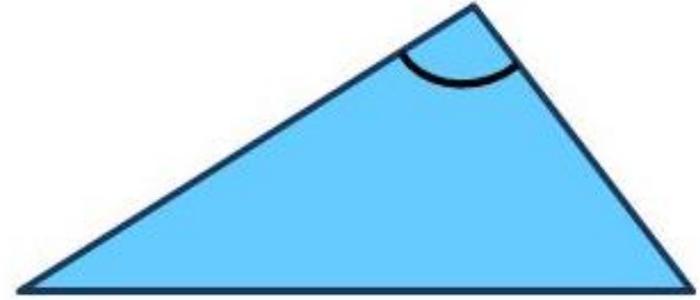
### 3.B) Quanto aos ângulos



**T. RETÂNGULO**

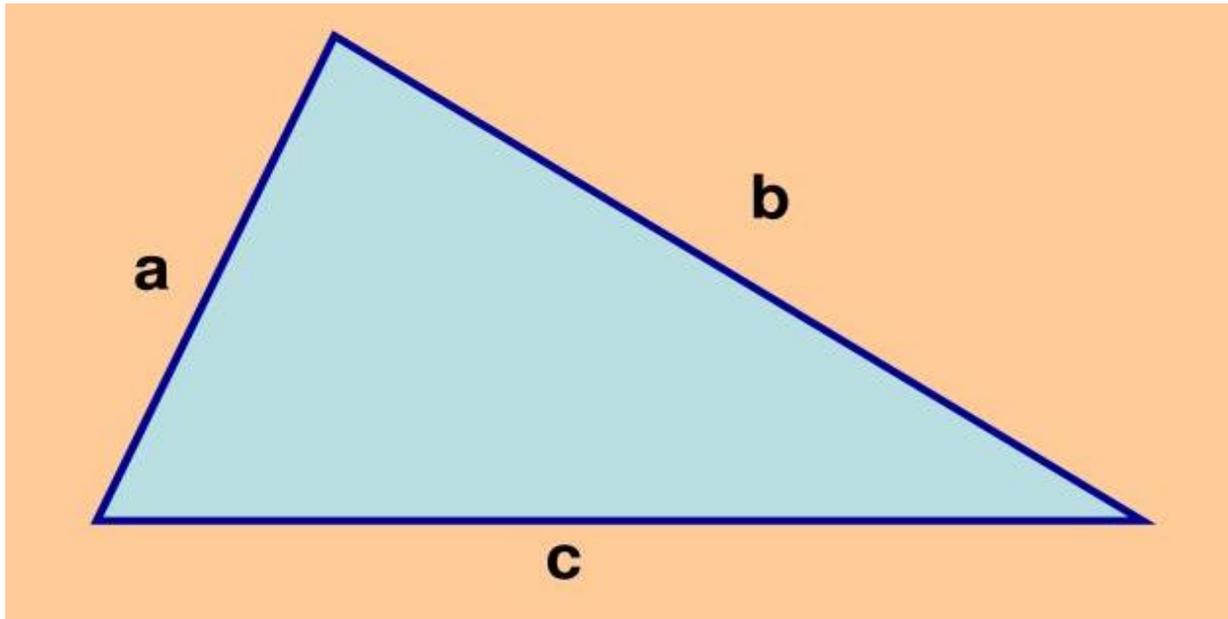


**T. ACUTÂNGULO**



**T. OBTUSÂNGULO**

## 4. CONDIÇÃO DE EXISTÊNCIA DE UM TRIÂNGULO (Desigualdade Triangular)



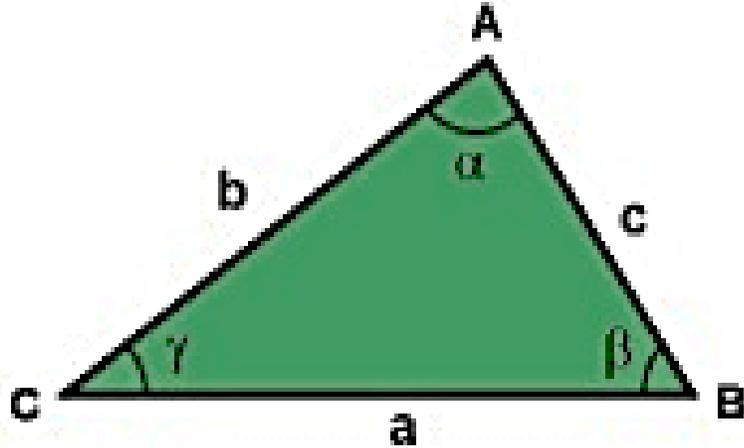
$$a < b + c$$

$$b < a + c$$

$$c < a + b$$

## 5. TEOREMAS ANGULARES DE UM TRIÂNGULO

### 5.A) Teorema Angular de Tales (Soma dos ângulos internos)

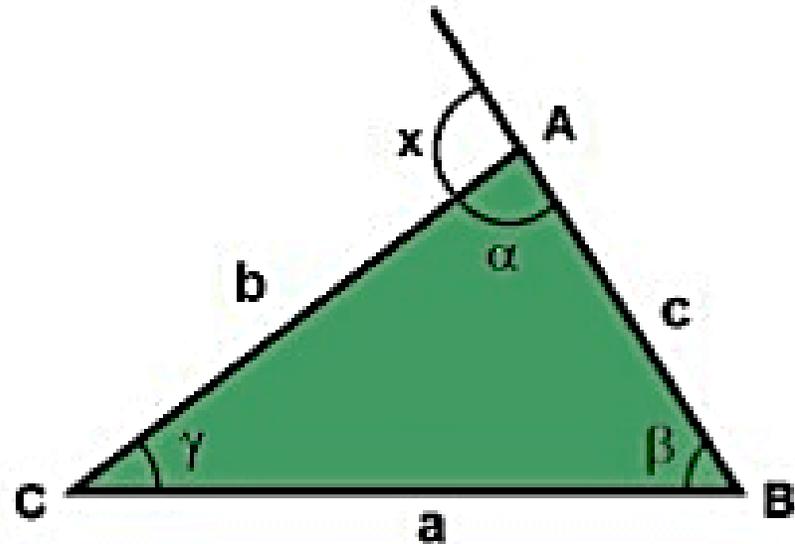


$$\alpha + \beta + \gamma = 180^\circ$$

### 5.B) Teorema do Ângulo Externo

$$\beta + \gamma = x$$

$$\alpha + x = 180^\circ$$



## **Referências:**

DOLCE, Osvaldo; POMPEO, José Nicolau. Fundamentos de Matemática Elementar. Geometria Plana. Vol: 9. São Paulo: Atual, 1995.

DANTE, Luiz Roberto. Matemática. Vols: 1 a 3. São Paulo: Ática, 2004.

<https://www.infoescola.com/matematica/tipos-de-triangulos/>

<https://www.eadabrileducacao.com.br>