

Lista de Exercícios - Aula 19

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1- *Lista de Exercícios*

congruentes, pois são opostos pelo vértice.

Alternativa

$$\rightarrow X + 70^\circ = 180^\circ \rightarrow X = 180^\circ - 70^\circ \rightarrow \boxed{110^\circ}$$

(C)

2. A soma dos ângulos internos de um triângulo é igual a 180° , então

$$3x + 4x + 5x = 180$$

Alternativa (E)

$$12x = 180$$
$$x = \frac{180}{12} \rightarrow x = 15^\circ$$

(C)

3-

$$\left. \begin{array}{l} 40^\circ + x + z = 180^\circ \\ 40^\circ + y + z = 180^\circ \end{array} \right\} \quad \left. \begin{array}{l} x + z = 180^\circ - 40^\circ \\ y + z = 180^\circ - 40^\circ \end{array} \right\}$$

$$\begin{aligned} & \left. \begin{array}{l} x + z = 140^\circ \\ y + z = 140^\circ \end{array} \right\} \Rightarrow \\ & \left. \begin{array}{l} x = 140^\circ - y \\ z = 140^\circ - y \end{array} \right\} \end{aligned}$$

Alternative $\textcircled{D} \rightarrow \boxed{x = 110^\circ}$

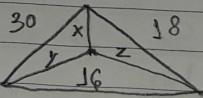
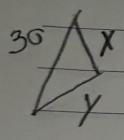
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* Condição de existência de triângulos:

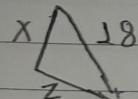
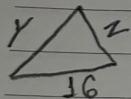
$$\left. \begin{array}{l} \text{ABD: } x < 3+2 \rightarrow x < 5 \\ \text{BCD: } x < 5+2 \rightarrow x < 7 \end{array} \right\} \quad (\textcircled{4}) < 5 \text{ e } (\textcircled{4}) < 7$$

Opcão que se encaixa é Alternativa $\textcircled{E} \rightarrow \textcircled{4}$

$$5 - x + y + z = ?$$



Condição de existência de triângulos.



$$\begin{aligned} &\rightarrow 30 < x + y \\ &\rightarrow 16 < y + z \quad \textcircled{+} \\ &\rightarrow 18 < x + z \end{aligned}$$

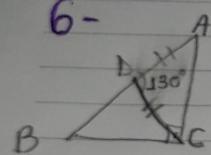
$$\begin{aligned} &30 + 16 + 18 < x + y + z + x + z \\ &64 < 2x + 2y + 2z \quad (\div 2) \end{aligned}$$

✓

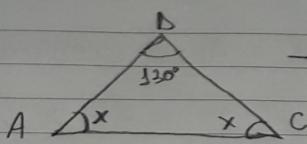
$$32 < x + y + z$$

↳ A opção que se encaixa é a $\textcircled{E}, 33$

6-



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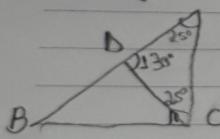


→ Triângulo Isósceles

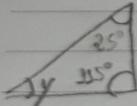
$$x + x + 130 = 180$$

$$2x = 180 - 130$$

$$x = \frac{50}{2} = x = 25^\circ$$



$$\hat{C} = 90 + 25^\circ = 115^\circ$$



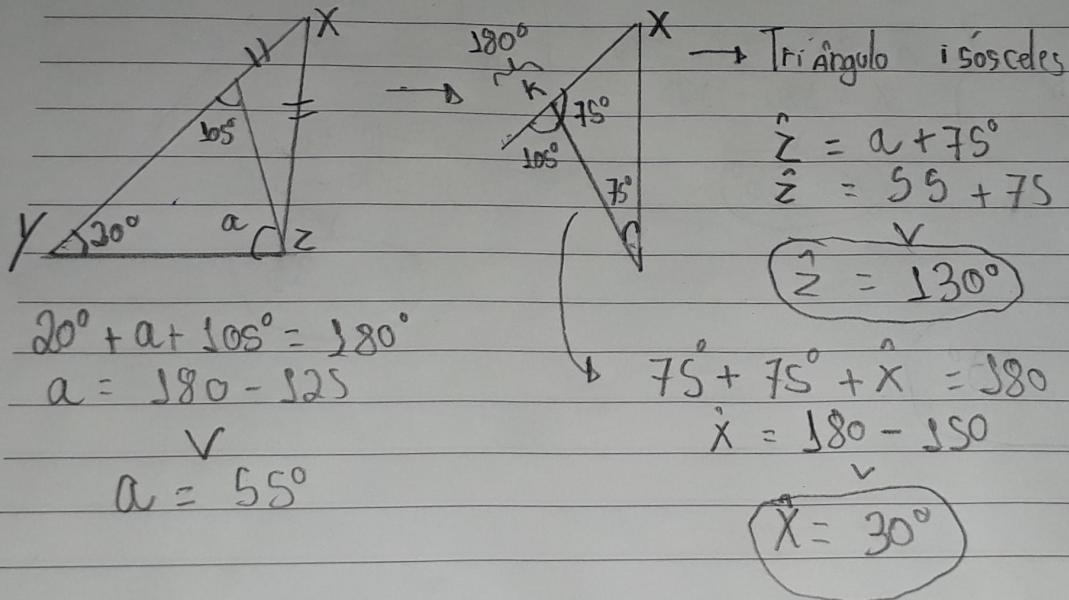
$$25^\circ + 115^\circ + y = 180^\circ$$

$$y = 180 - 140$$

$$y = 40^\circ \quad \textcircled{B}$$

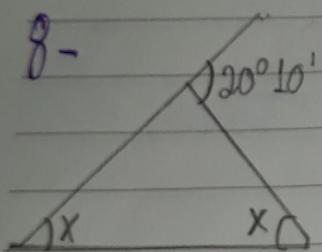
R: $25^\circ, 40^\circ$ e 115° .

$$7 - x \text{ e } z = ? / y = 20^\circ / x + z = 160^\circ$$



R: 130° e 30°

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x = Ángulos congruos

$$20^\circ 10' = x + x \quad (\text{Regla Ángulos internos})$$

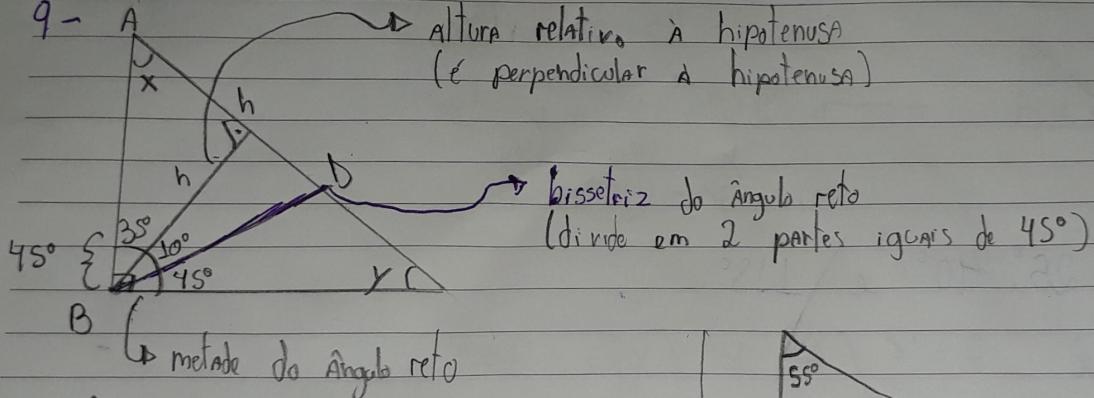
$$20^\circ 10' = 2x$$

$$x = (20^\circ 10') : 2$$

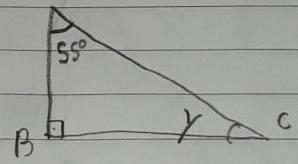
Alternativa B

$$x = 10^\circ 5'$$

9 -



$$\left. \begin{array}{l} x + 90^\circ + 35^\circ = 180 \\ x = 180 - 125 \end{array} \right\}$$
$$x = 55^\circ$$



$$55^\circ + 90^\circ + y = 180$$
$$y = 180 - 145$$

$$y = 35^\circ$$

R: 35° e 55°