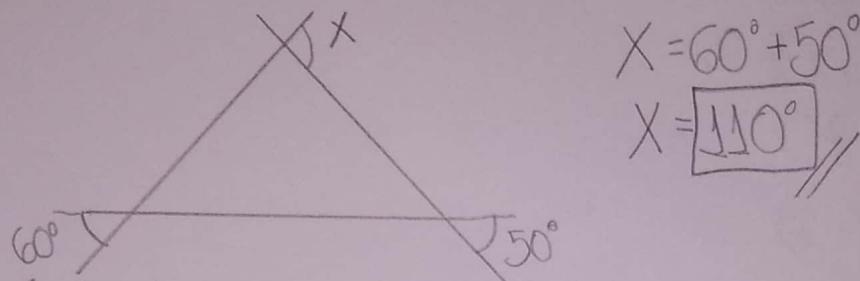


Nome: Gustavo da Silveira de Souza. CTii 348.

## Tarefa Básica - Triângulos

01. O valor de  $x$  na figura é:



$$x = 60^\circ + 50^\circ$$

$$x = \boxed{110^\circ}$$

R: Letra (C)  $110^\circ$

02. Os ângulos de um triângulo medem, respectivamente,  $3x$ ,  $4x$  e  $5x$ . Então  $x$  vale em graus:

$$3x + 4x + 5x = 180^\circ$$

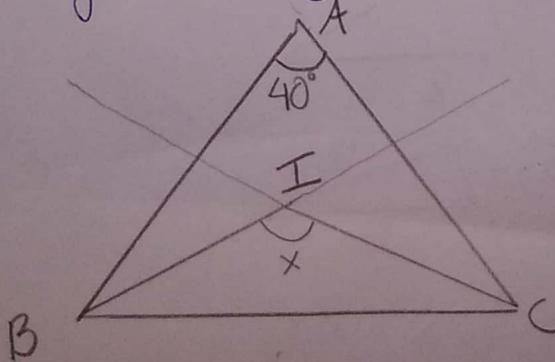
$$12x = 180^\circ$$

$$x = \frac{180}{12}$$

$$x = \boxed{15^\circ}$$

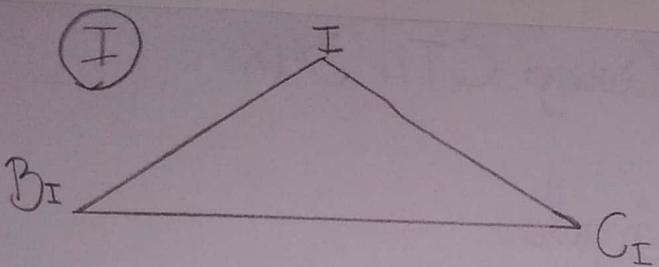
R: Letra (E)  $15^\circ$

03. No triângulo ABC da figura abaixo, BI e CI são bissetrizes dos ângulos internos B e C, se a medida do ângulo A é  $40^\circ$ . A medida do ângulo BIC é:



$$B + C = 180 - 40$$

$$B + C = 140$$



$$I = 180 - (B_I + C_I)$$

$$B + C = (B_I + C_I) \div 2$$

$$140 = B_I + C_I \div 2$$

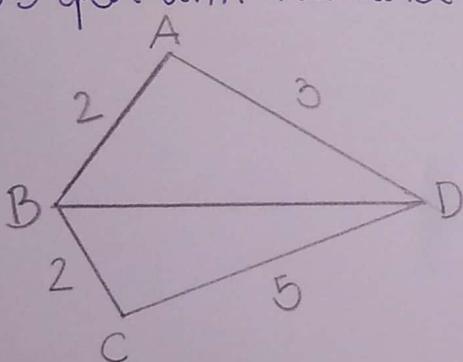
$$B_I + C_I = 70$$

$$I = 180 - (70)$$

$$I = \boxed{110^\circ}$$

R: Letra (D)  $110^\circ$

04. (MACKENZIE) - De no quadrilátero ABCD da figura, a medida de BD for um número natural, então esse número será



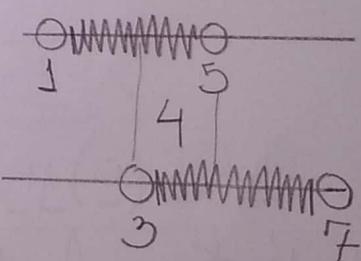
$$|2-3| < BD < 2+3$$

$$1 < BD < 5$$

$$|5-2| < BD < 5+2$$

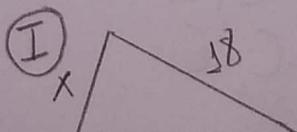
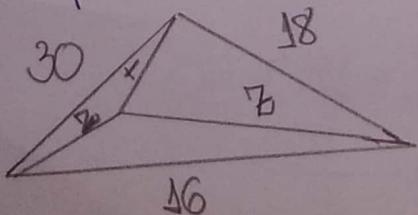
$$3 < BD < 7$$

$$BD = \boxed{4}$$

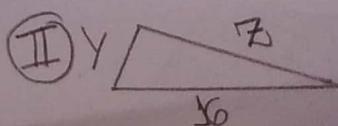


R: Letra (E) 4.

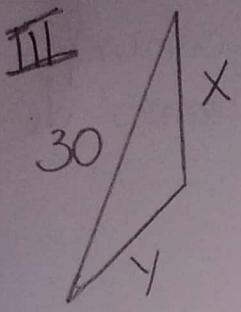
05. (MACKENZIE) - No triângulo da figura, a soma das medidas  $x$ ,  $y$  e  $z$  pode ser



$$18 < x + z$$



$$36 < y + z$$

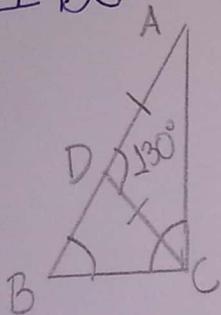


$$+ \begin{cases} 30 < X + Z \\ 30 < Y + Z \\ 30 < X + Y \end{cases}$$

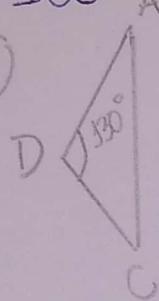
$$\frac{60 < 2X + 2Y + 2Z (\div 2)}{30 < X + Y + Z}$$

R: Letra (E) 33.

06. Na figura abaixo, calcule os ângulos A, B e C, sendo  $AD \cong CD$ ,  $CD \perp BC$  e  $\hat{A}DC = 130^\circ$

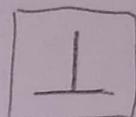


(I)



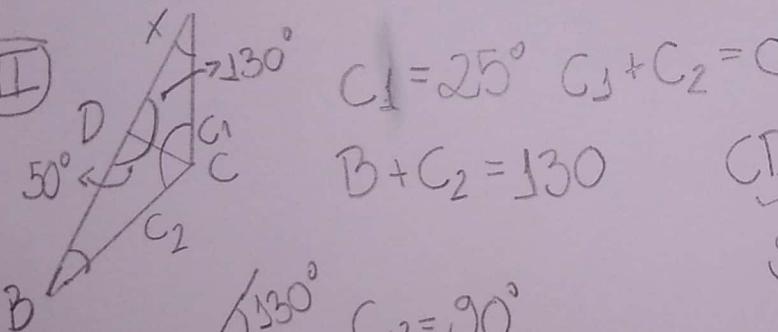
$$\begin{aligned} X + X + 130 &= 180 \\ 2X &= 180 - 130 \\ 2X &= 50 \\ X &= \frac{50}{2} \\ X &= 25^\circ \end{aligned}$$

(A)



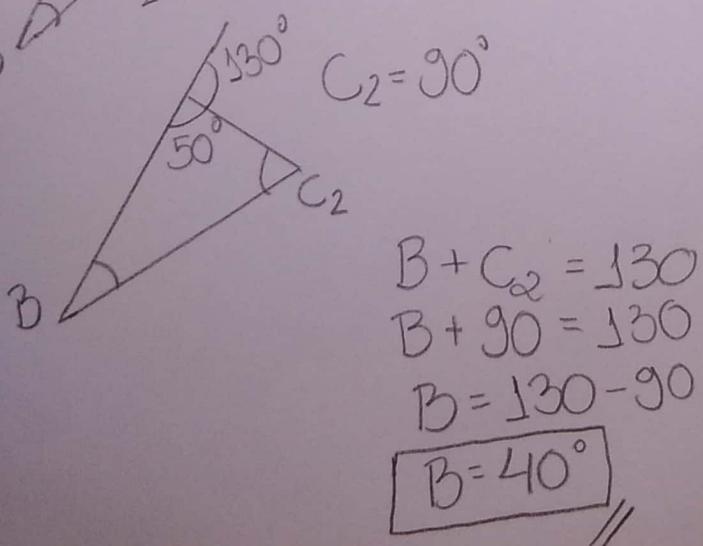
$\hookrightarrow$  Perpendicular

(II)



$$\underbrace{CD \perp CB}_{90^\circ}$$

III



$$\begin{aligned} C &= C_1 + C_2 \\ C &= 25 + 90 \\ C &= 115^\circ \end{aligned}$$

(B)

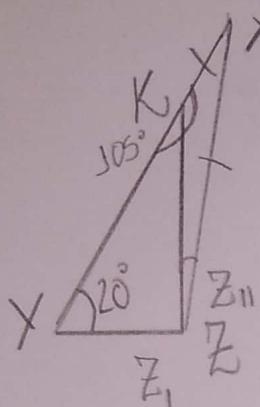
$$\boxed{B = 40^\circ}$$

R:  $25^\circ, 40^\circ, 115^\circ$ .

07. Calcular os ângulos  $X$  e  $Z$  do Triângulo  $XYZ$  da figura, sendo  
 $\hat{Y} = 20^\circ$ ,

$$\hat{XKZ} = 105^\circ \text{ e } XZ \cong XK$$

①



$$X + Y + Z = 180$$

$$X + Z = 180 - 20$$

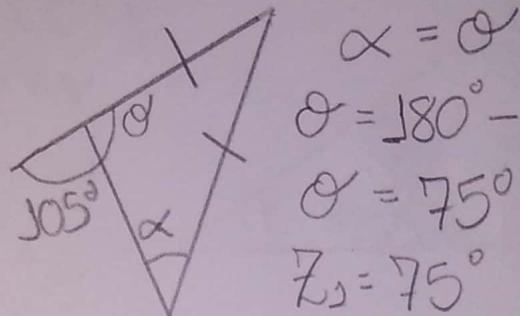
$$X + Z = 160$$

$$X + 130 = 160$$

$$X = 160 - 130$$

$$\boxed{X = 30^\circ}$$

R:  $30^\circ$  e  $130^\circ$ .



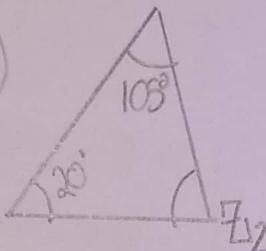
$$\alpha = \theta$$

$$\theta = 180^\circ - 105^\circ$$

$$\theta = 75^\circ$$

$$Z = 75^\circ$$

②



$$105 + 20 + Z_2 = 180$$

$$Z_2 = 180 - 125$$

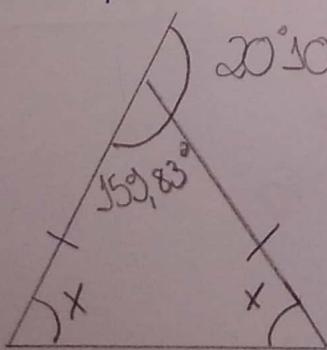
$$Z_2 = 55^\circ$$

$$Z = Z_1 + Z_2$$

$$Z = 75^\circ + 55^\circ$$

$$\boxed{Z = 130^\circ}$$

08. Num triângulo irôbile, um ângulo externo vale  $20^\circ 10'$ . Os valores possíveis para os ângulos côngruos são:



$$20^\circ 10' = 20,17^\circ$$

$$60^\circ \Rightarrow 1^\circ$$

$$10^\circ \Rightarrow X$$

$$60X = 10$$

$$X = \frac{10}{60}$$

$$X = 0,17$$

$$180 - 20,17$$

$$159,83^\circ$$

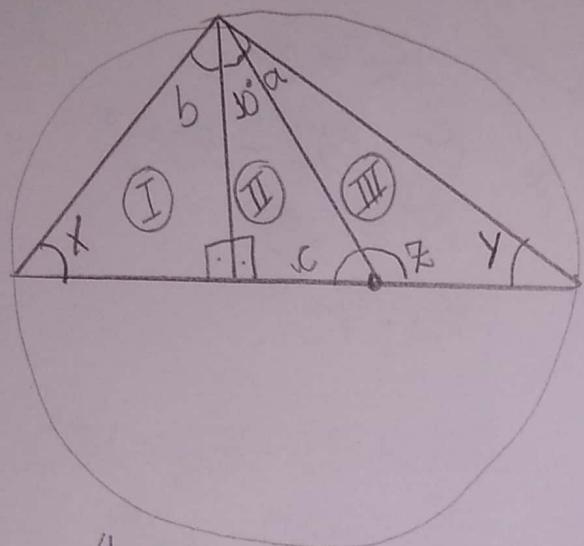
$$X + X + 159,83 = 180$$

$$2X = 20,17$$

$$X = 10,085$$

R: hexágono (B) somete  $10^\circ 05'$

09. Num triângulo retângulo, a altura relativa à hipotenusa forma com a bisetriz do ângulo reto um ângulo de  $50^\circ$ . Calcule os ângulos agudos do triângulo.



$$Z = 90^\circ \Rightarrow 180^\circ - 90^\circ = 90^\circ$$

$$X + Y = 90^\circ$$

$$b + a + 50^\circ = 90^\circ$$

$$c + Z = 180^\circ$$

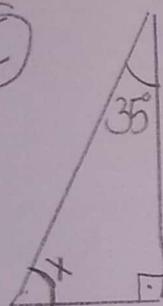
$$a = 45^\circ$$

$$b + 50^\circ = 45^\circ$$

$$b = 45^\circ - 50^\circ$$

$$b = 35^\circ$$

①

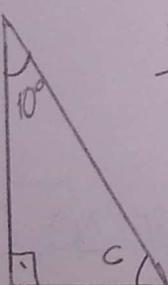


$$35 + 90 + x = 180$$

$$x = 180 - 90 - 35$$

$$x = 55^\circ$$

②

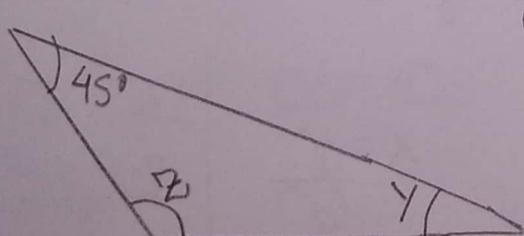


$$10 + 90 + c = 180$$

$$c = 180 - 90 - 10$$

$$c = 80^\circ$$

③



$$C + Z = 180^\circ \Rightarrow Z = 180 - 80 \Rightarrow Z = 100^\circ$$

$$45 + 100 + Y = 180^\circ$$

$$Y = 180 - 100 - 45$$

$$Y = 35^\circ$$

R:  $35^\circ$  e  $55^\circ$ .