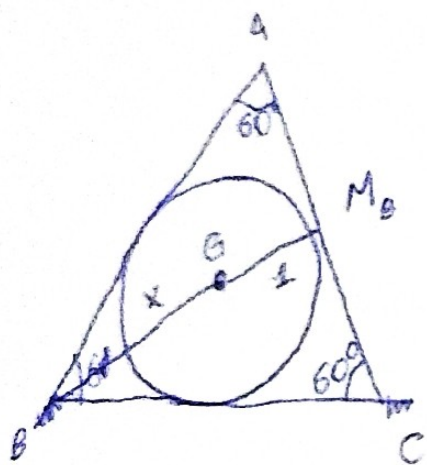


1.

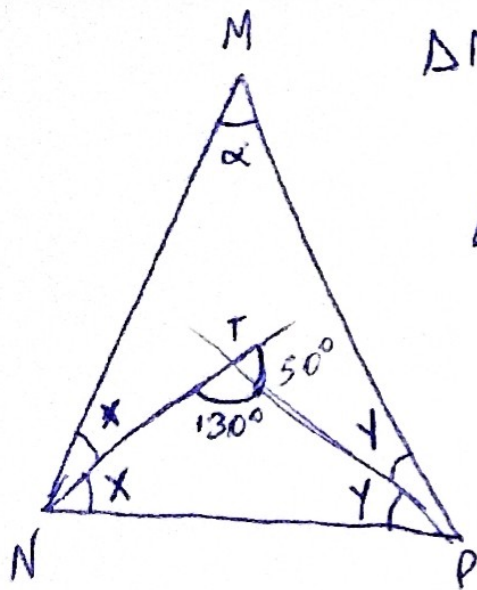


No triângulo ~~retângulo~~ equilátero, todos os pontos notáveis são coincidentes, então com baricentro:

$$\frac{x}{r} \Rightarrow \frac{x}{1} = \frac{2}{1} = x = 2$$

①

2.



$$\triangle MNP \rightarrow \angle^\circ = 180^\circ - 2x - 2y \Rightarrow \alpha^\circ + 2x + 2y = 180^\circ$$

$$\triangle NTP \rightarrow 130^\circ + x + y = 180^\circ$$

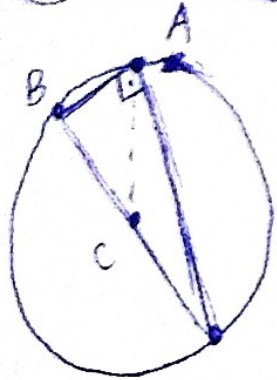
$$x + y = 50^\circ$$

$$\rightarrow \alpha^\circ + 2(x + y) = 180^\circ$$

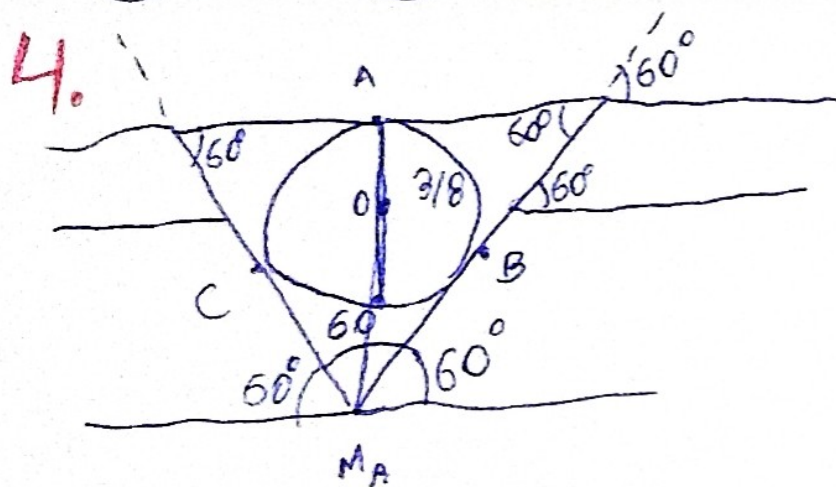
$$\alpha^\circ + 2(50^\circ) = 180^\circ$$

$$\alpha^\circ = 80^\circ$$

(E)



É retângulo porque o circuncentro é equidistante dos vértices do triângulo (B)



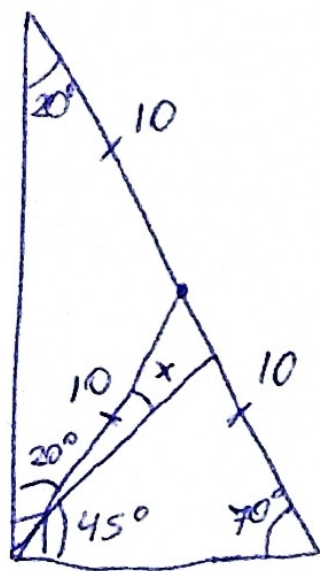
$$\frac{\overline{OM_A}}{\frac{3}{16}} = \frac{2}{1} \Rightarrow \overline{OM_A} = \frac{6}{16}$$

$$x + \frac{1}{2} = \frac{6}{16} + \frac{3}{16} \Rightarrow x + \frac{1}{2} = \frac{9}{16}$$

$$x = \frac{9-8}{16} = \frac{1}{16}$$

(E)

5.

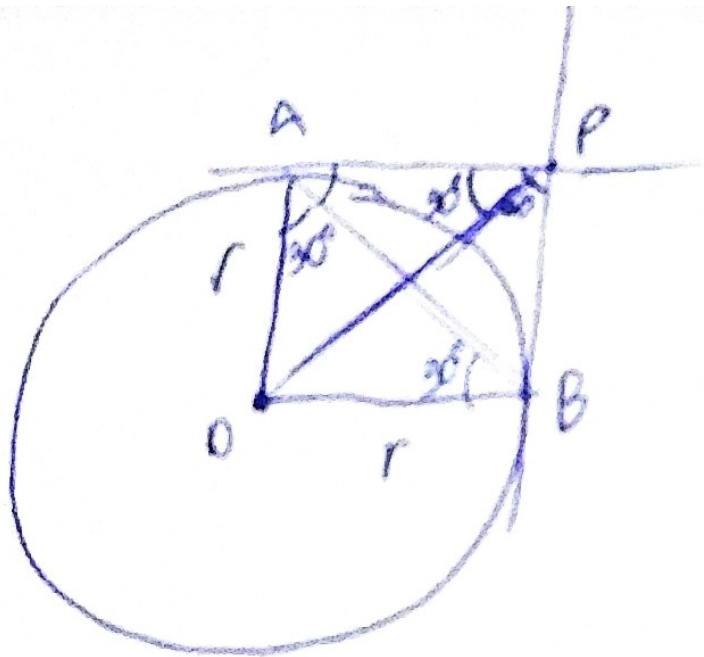


a) Mede 10cm pois a mediana relativa à hipotenusa é igual a medida da metade da hipotenusa.

$$b) 20^\circ + x^\circ = 45^\circ$$

$$x = 25^\circ$$

6.



$$\sin(30^\circ) = \frac{1}{2}$$

$$\frac{1}{2} = \frac{r}{PO} \Rightarrow \overline{PO} = 2r \quad \text{C}$$