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Tarefa Básica

1. • Soma dos ângulos internos:

$(6-2)180^\circ = 720^\circ$

• $A+B+D+E = 540^\circ$

$x = \frac{720^\circ - 540^\circ}{2} = \frac{180^\circ}{2} = 90^\circ \quad C = F = 90^\circ$

(I) $f^2 = 5^2 + 5^2 \rightarrow f = \sqrt{50} \rightarrow f = 5\sqrt{2}$

$p = \frac{5+5+5\sqrt{2}}{2} \rightarrow p = \frac{10+5\sqrt{2}}{2}$

$$A_{aef} = \sqrt{\frac{10+5\sqrt{2}}{2}\left(\frac{10+5\sqrt{2}}{2}-5\right)\left(\frac{10+5\sqrt{2}}{2}-5\right)\left(\frac{10+5\sqrt{2}}{2}-5\sqrt{2}\right)}$$

$$A_{aef} = \sqrt{\frac{10+5\sqrt{2}}{2}\left(\frac{10+5\sqrt{2}-10}{2}\right)\left(\frac{10+5\sqrt{2}-10}{2}\right)\left(\frac{10+5\sqrt{2}-10\sqrt{2}}{2}\right)}$$

$$A_{aef} = \sqrt{\frac{10+5\sqrt{2}}{2}\cdot\frac{5\sqrt{2}}{2}\cdot\frac{5\sqrt{2}}{2}\cdot\frac{10-5\sqrt{2}}{2}}$$

$$A_{aef} = \sqrt{\frac{(10+5\sqrt{2})(10-5\sqrt{2})}{4}\cdot\frac{(5\sqrt{2})(5\sqrt{2})}{4}} = \sqrt{\frac{100-25\cdot 2}{4}\cdot\frac{50}{4}}$$

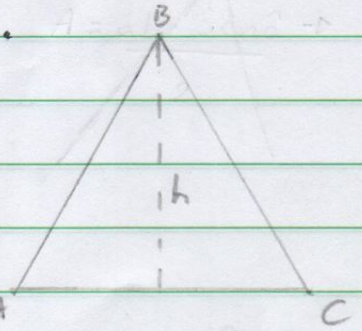
$$A_{aef} = \sqrt{\frac{50}{4}\cdot\frac{50}{4}} = \frac{50}{4} = \frac{25}{2}\ cm^2$$

(II) $A_{abde} = 5\cdot 5\sqrt{2} = 25\sqrt{2}\ cm^2$

(III) $A_t = \frac{25}{2} + \frac{25}{2} + 25\sqrt{2} = \frac{50}{2} + 25\sqrt{2} = 25 + 25\sqrt{2}$

$A_t = 25(1+\sqrt{2})\ cm^2$ | Alternativa E

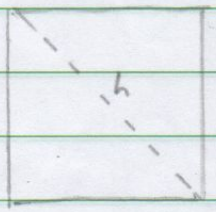
2.



$A_{abc} = \frac{(\ell^2 \cdot \sqrt{3})}{4} \rightarrow 16\sqrt{3} = \frac{(\ell^2 \cdot \sqrt{3})}{4}$

$64\sqrt{3} = \ell^2 \cdot \sqrt{3} \rightarrow \ell = 8\ m$

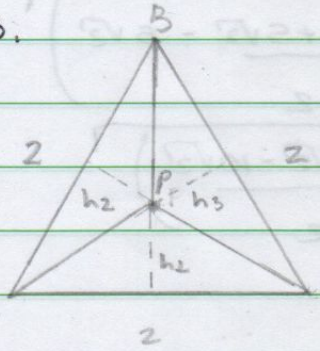
$h = \frac{\ell\sqrt{3}}{2} \rightarrow h = \frac{8\sqrt{3}}{2} \rightarrow h = 4\sqrt{3}\ m$



$4\sqrt{3} = \ell\sqrt{2} \rightarrow \ell = \frac{4\sqrt{3}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} \rightarrow \ell = 2\sqrt{6}\ m$

$A_{\square} = (2\sqrt{6})^2 = 4 \cdot 6$ | $A = 24\ m^2$ | Alternativa B

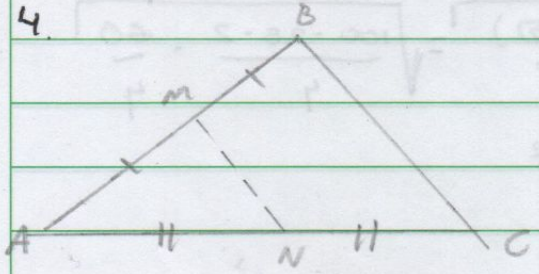
3.



$\frac{2h_1}{2} + \frac{2h_2}{2} + \frac{2h_3}{2} = \sqrt{3}$

$h_1 + h_2 + h_3 = \sqrt{3}$ | Alternativa $\sqrt{3}$

4.



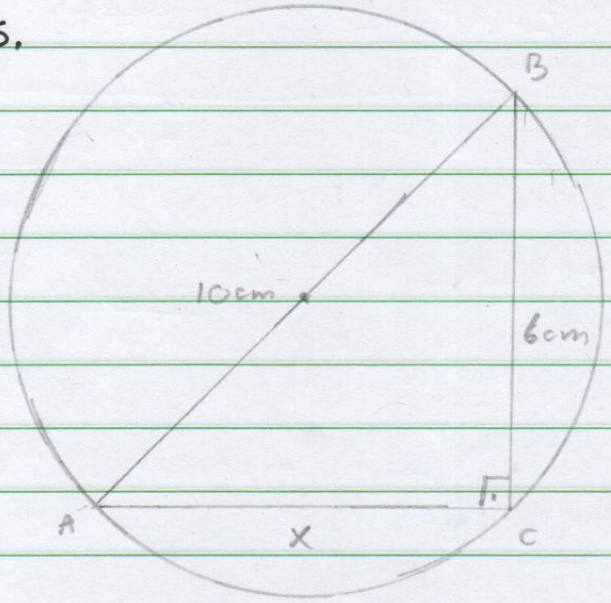
$A_{abc} = 96\ m^2$

AMN e ABC são semelhantes com razão de $\frac{1}{2}$

$\frac{A_{amn}}{A_{abc}} = \frac{1}{4} \rightarrow A_{amn} = \frac{A_{abc}}{4} \rightarrow A_{amn} = \frac{96}{4} = 24\ m^2$

$A_{bcnm} = 96 - 24 =$ | $72\ m^2$

5.



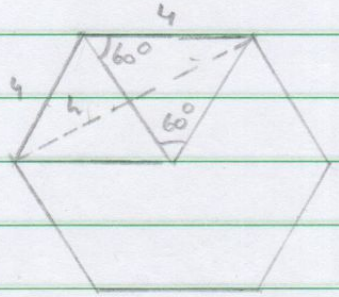
$10^2 = 6^2 + x^2 \rightarrow x^2 = 100 - 36$

$x = \sqrt{64} \rightarrow x = 8cm$

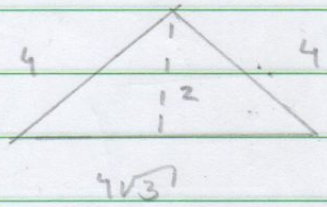
$A = \frac{8 \cdot 6}{2} = \boxed{24cm^2}$

Alternativa A

6.



$h = \frac{4\sqrt{3}}{2} \rightarrow h = 2\sqrt{3}\ cm$



$A = \frac{2 \cdot 4\sqrt{3}}{2} = 4\sqrt{3}$

O quadrado da área

$(4\sqrt{3})^2 = 16 \cdot 3 = \boxed{48cm^2}$