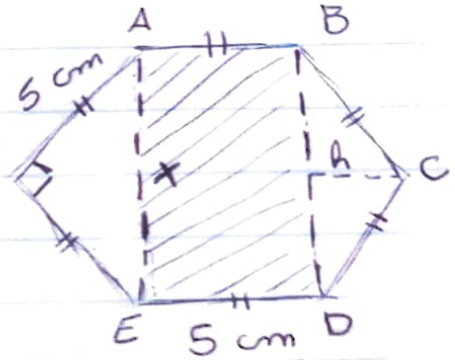
Tarefa Básica - áreas de polígonos

01. $(n-2)\cdot 180$
$= (6-2)\cdot 180$
$= 720°$ → soma dos ângulos internos

$\hat{A}+\hat{B}+\hat{D}+\hat{E} = 540°$
C e F = 90° cada



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

(II) $A_{ABDE} = 5\cdot 5\sqrt{2}$
$= 25\sqrt{2}$

(III) $h = \frac{5\cdot 5}{5\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$
$h = \frac{25\sqrt{2}}{5\cdot 2} = \frac{5\sqrt{2}}{2}$

(IV) A_{BCD} e A_{AEF}
$A = \frac{\frac{5\sqrt{2}\cdot 5\sqrt{2}}{2}}{\frac{2}{1}} = \frac{25\cdot 2}{4} = \frac{25}{2}$

(V) Área do hexágono:
$A = 2\cdot\frac{25}{2} + 25\sqrt{2} = \boxed{25(\sqrt{2}+1)}$ (E)

02. $16\sqrt{3} = \frac{\ell^2\sqrt{3}}{4}$ → $\ell^2\sqrt{3} = 64\sqrt{3}$ → $\ell^2 = \frac{64\sqrt{3}}{\sqrt{3}}\cdot\frac{\sqrt{3}}{\sqrt{3}}$ →
$\ell^2 = 64\cdot 3/3$ → $\ell^2 = 64$ → $\underline{\ell = 8}$

$h = \frac{8\sqrt{3}}{2} = \boxed{4\sqrt{3}}$
$h = d$

$d = \ell\sqrt{2}$
$4\sqrt{3} = \ell\sqrt{2}$
$\ell = 4\sqrt{3}/\sqrt{2}$
$\ell = 4\sqrt{6}/2$
$\ell = 2\sqrt{6}$

$A = (2\sqrt{6})^2$
$A = 4\cdot 6$
$\boxed{A = 24\ m^2}$ (B)

03. $A_{ABC} = \frac{l^2\sqrt{3}}{4} = \frac{2^2\sqrt{3}}{4} = \sqrt{3}$

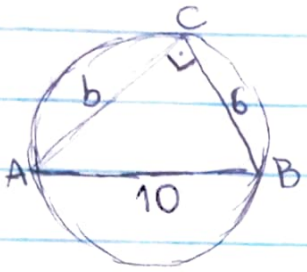
$A_{(APC)} = 2 \cdot h' / 2$
$A_{(APB)} = 2 \cdot h'' / 2$
$A_{(BPC)} = 2 \cdot h''' / 2$

$\boxed{h' + h'' + h''' = \sqrt{3}}$ (B)

04. $\frac{A_{MN}}{ABC} = \frac{1}{4}$

$x = 96 - 1/4 \cdot 96$
$x = 96 - 24$
$\boxed{x = 72\ m^2}$

05.



$10^2 = 6^2 + b^2$
$b^2 = 100 - 36$
$b = \sqrt{64}$
$b = 8$

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

06. $\Delta_{ABC} = \frac{[l \cdot l \cdot \text{sen}(B)]}{2} = \frac{4 \cdot 4 \cdot \text{sen}\,120^\circ}{2} = \frac{8\sqrt{3}}{2} = \sqrt{48}$

$\Delta_{ABC}]^2 = (\sqrt{48})^2 = \boxed{48\ cm^2}$