$(n-2) \cdot 180° = 4 \cdot 180° = 720°$

$A + B + D + E = 135 \cdot 4$

$A + B + D + E = 540°$
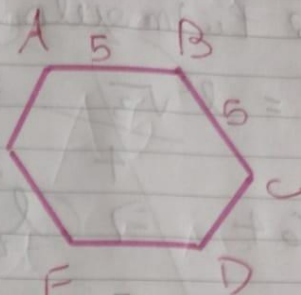
soma ângulos internos $- (A+B+D+E) = F + C$

$720° - 540 = F + C$

$F + C = 180°$

$\triangle \; AFE \Rightarrow (AE)^2 = (AF)^2 + (EF)^2$

$AE = \sqrt{50}$

$AE = 5\sqrt{2}$

Área $ABCD = 5 \cdot 5\sqrt{2}$

$S_{ABCD} = 25\sqrt{2}$

Área hexágono $= AFE + ABDE + BCD$

Área hexágono $= 25\sqrt{2} + \dfrac{25}{2} + \dfrac{25}{2}$

Área hexágono $= 25(\sqrt{2} + 1)$

Área △ equilátero $= \ell^2 \sqrt{3}/4$

$16\sqrt{3} = \ell^2\sqrt{3}/4$

$\ell_t^2 = 64 \Rightarrow$ $\boxed{\ell_t = 8\,m}$

$S_{Eh} = \ell\sqrt{3}/2 \Rightarrow 8\sqrt{3}/2 = \boxed{A_{Eh} = 4\sqrt{3}}$

$\triangle_{Eh} =$ diagonal quadrado

$4\sqrt{3} = \ell\sqrt{2}$

$\ell_\square = 4\sqrt{3}/\sqrt{2} \cdot \sqrt{2}/\sqrt{2} \Rightarrow \boxed{\ell_\square = 2\sqrt{6}}$

$\ell_\square \cdot \ell_\square = A$

$A = 2\sqrt{6} \cdot 2\sqrt{6}$

$\boxed{A = 24\,m^2}$

Q3
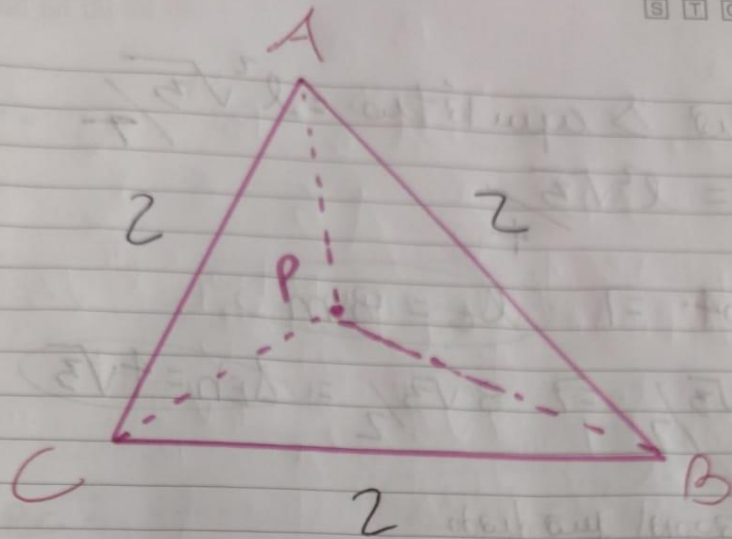
$APC + APB + BPC = ABC \Rightarrow$ Area

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

$$h_1 + h_2 + h_3 = \sqrt{3}$$
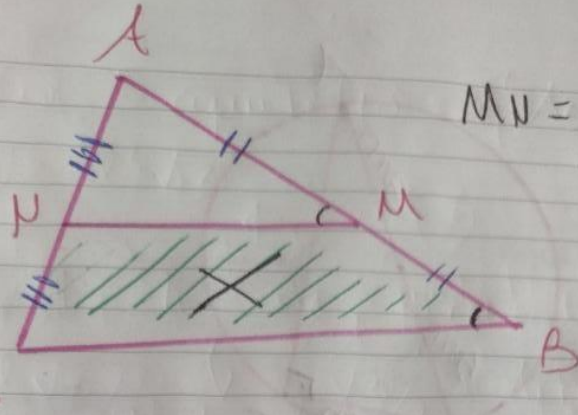
04-

$MN = \frac{1}{2} BC$

$\triangle ABC \simeq AMN$

$A \sim A$

$\dfrac{S\triangle AMN}{S\triangle ABC} = \left(\dfrac{1}{2}\right)^2$

$$\boxed{S\triangle AMN = \dfrac{S\triangle ABC}{4}}$$

$S\triangle ABC = x + S AMN$

$96 = x + 96/4$

$$x = 72 \, cm^2$$

05-

A

5cm

5cm

6cm

B

C
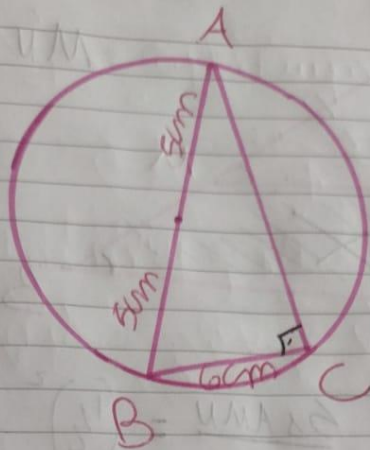
$AB^2 = BC^2 + AC^2$

$10^2 = 6^2 + AC^2$

$AC = 8\,cm$

$SABC = BC \cdot AC / 2$

$SABC = 6 \cdot 8 / 2$

$SABC = 24\,cm^2$

a6-

$\ell = r$

$S \triangle \text{equilátero} = \dfrac{\ell^2 \sqrt{3}}{4}$

$S \triangle \text{equilátero} = \dfrac{r^2 \sqrt{3}}{4}$

$S \triangle \text{equilátero} = \dfrac{4^2 \sqrt{3}}{4}$

$\boxed{S \triangle \text{equilátero} = 4\sqrt{3}}$

$(S \triangle \text{equilátero})^2 = y$

$y = (4\sqrt{3})^2$

$y = 48$