# Tarefa Básica - Áreas de Polígonos

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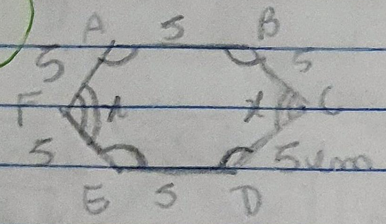
1




Soma ângulos internos:

$S_i = 180(n-2)$

$S_i = 180.(6-2) = 720°$

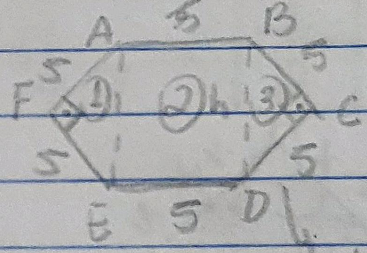
$\hat{A}+\hat{B}+\hat{C}+\hat{D}+\hat{E}+\hat{F} = 720$

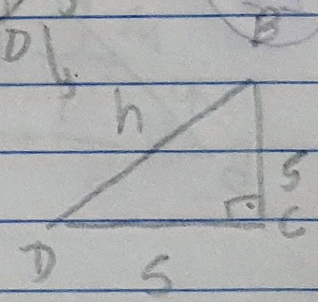
$135° + 135° + x + 135° + 135° + x = 720$

$2x + 540 = 720$

$2x = 720 - 540$

$x = \frac{180}{2} = 90°$




Área total $= A①+A②+A③$

$At = \frac{5.5}{2} + 5.5\sqrt{2} + \frac{5.5}{2}$

$At = \frac{25}{2} + 25\sqrt{2} + \frac{25}{2}$

$At = 25\left(\frac{1}{2} + \sqrt{2} + \frac{1}{2}\right)$

$At = 25\left(\frac{\sqrt{2}+2}{2}\right) = \boxed{25(\sqrt{2}+1)\ cm^2}$ (E)

$h^2 = 5^2 + 5^2$

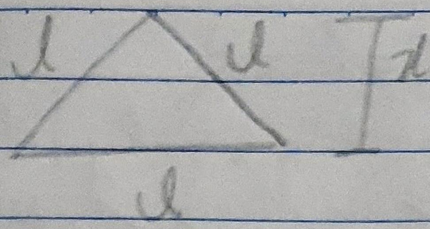
$h^2 = 25 + 25$

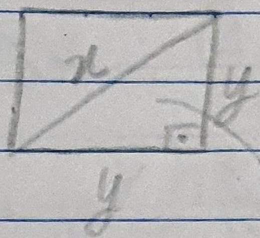
$h = \sqrt{50}$

$h = \sqrt{2.25} = \sqrt{2}.\sqrt{25}$

$h = 5\sqrt{2}$

2




$A\square = y^2$

$A\Delta = 16\sqrt{3}\,m^2$

$\frac{l^2\sqrt{3}}{4} = 16\sqrt{3}$

$l^2 = \frac{16\cancel{\sqrt{3}}\cdot 4}{\cancel{\sqrt{3}}}$

$l^2 = 64$

$l = \sqrt{64} = 8m$

$x = \frac{l\sqrt{3}}{2}$

$x = \frac{\cancel{8}\sqrt{3}}{\cancel{2}}$

$x = 4\sqrt{3}$

$x^2 = y^2 + y^2$

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

$16.3 = 2y^2$

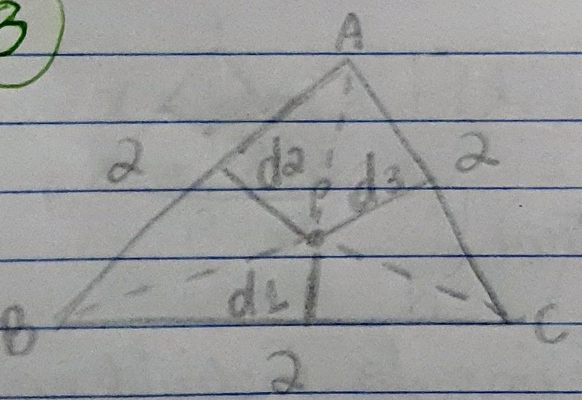
$y^2 = \frac{\cancel{16}.3}{\cancel{2}}$

$y^2 = 8.3$

$y^2 = \boxed{24}$

↳ área do quadrado (B)

3




d1 = altura triângulo BCP
d2 = altura triângulo ABP
d3 = altura triângulo ACP

distâncias entre ponto P e lados do triângulo ABC

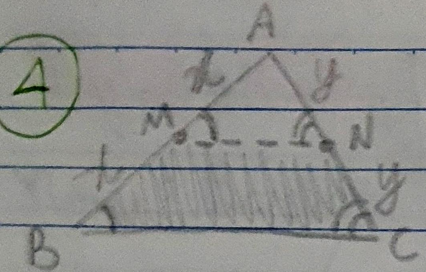
$\text{Área } \Delta ABC = \frac{2^2\sqrt{3}}{4} = \frac{4\sqrt{3}}{\cancel{4}} = \sqrt{3}$

$A\Delta ABC = A\Delta BCP + A\Delta ABP + A\Delta ACP$

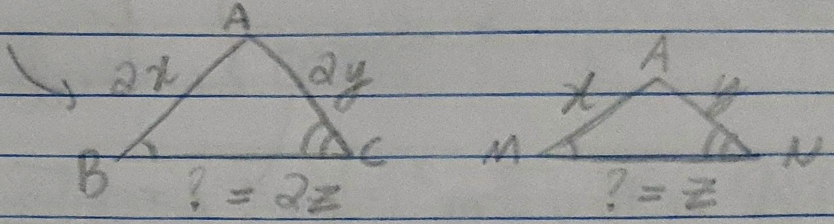
$\sqrt{3} = \frac{\cancel{2}\cdot d_1}{\cancel{2}} + \frac{\cancel{2}\cdot d_2}{\cancel{2}} + \frac{\cancel{2}\cdot d_3}{\cancel{2}}$

$d_1 + d_2 + d_3 = \boxed{\sqrt{3}}$ (B)

4



A ⏢ BMNC = ?




$$\frac{A\triangle AMN}{A\triangle ABC} = K^2$$

Triângulos semelhantes, $K = \frac{1}{2}$

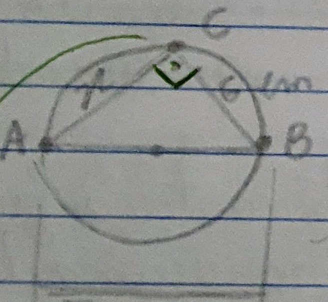
$$\frac{A\triangle AMN}{96} = \left(\frac{1}{2}\right)^2$$

$$A\triangle AMN = \frac{96}{4} = 24$$

$* \; A⏢BMNC = A\triangle ABC - A\triangle AMN$

$A⏢BMNC = 96 - 24 = \boxed{72\,m^2}$

5

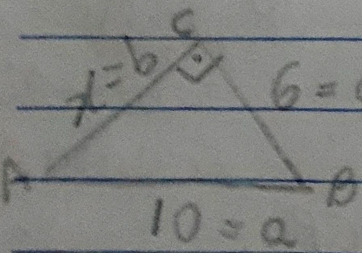


$R = 5\,cm$

$A\triangle ABC = ?$

$\overline{AB} = 2R = 10\,cm$ (diâmetro)

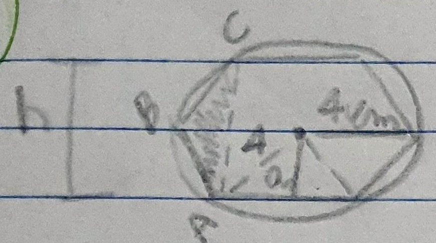
Se um dos lados do triângulo inscrito na circunferência é o diâmetro, o ângulo oposto é reto.




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

$$A = \frac{a.b.c}{4R} = \frac{\cancel{10}.\cancel{8}.6}{\cancel{4}.\cancel{5}} = \boxed{24\,cm^2}$$ (A)

(6)



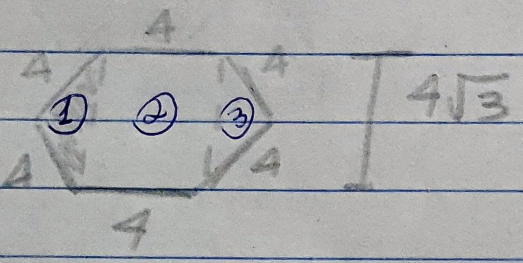

$R = 4\,cm \;,\; (A\triangle ABC)^2 = ?$

$2 \cdot a = h$

$\cancel{2} \cdot \dfrac{4\sqrt{3}}{\cancel{2}} = h$

$h = 4\sqrt{3}\,cm$

$a = \text{apótema} = \dfrac{R\sqrt{3}}{2}$




Área 1 = Área 3 = $x$

$A⬡ - A2 = A1 + A3$

$\left(p\,(\text{semiperímetro}) \cdot a\right) - 4 \cdot 4\sqrt{3} = x + x$

$\dfrac{6 \cdot \overset{2}{\cancel{4}}}{\cancel{2}} \cdot \dfrac{\overset{2}{\cancel{4}}\sqrt{3}}{\cancel{2}} - 16\sqrt{3} = 2x$

$2x = 24\sqrt{3} - 16\sqrt{3}$

$x = \dfrac{8\sqrt{3}}{\cancel{2}} = 4\sqrt{3}\,cm^2$

$(A\triangle ABC)^2 = x^2$

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

$x^2 = 16 \cdot 3 = \boxed{48\,cm^2}$