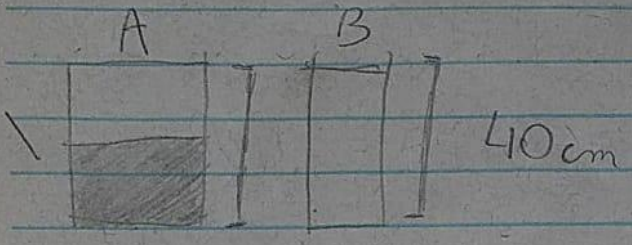
Nome: Arthur Hernandes Silva de Souza **CTII 350**

Cilindros

① $\frac{1}{5}$



$R = 10\,cm$ $R = 5\,cm$

$Volume\ A = \pi . 10^2 . 40$

$Volume\ A = 4000\pi\ cm^3$

$4000\pi . \frac{1}{5} = 800\pi\ cm^3$

$800\pi = 25\pi . X$

$X = \frac{800\pi}{25\pi}$

$X = 32\ cm$

Letra A

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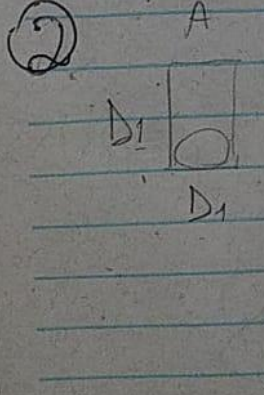
② 

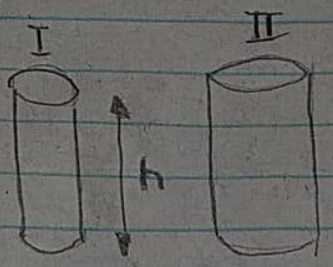
$\pi . R_1^2 . 2R_1 = \frac{1}{27}$
$\pi . R_2^2 . 16R_2$

$\frac{R_1^2 . 2R_1}{R_2^2 . 16R_2} = \frac{8}{27}$

$\frac{R_1^3}{R_2^3} = \frac{8}{27}$ | $\frac{\sqrt[3]{8}}{\sqrt[3]{27}} = \frac{2}{3}$

Letra E

③



$R^2 \cdot \pi \cdot h = 16\pi$ | $R^2 h = 16$

$2\pi \cdot \frac{3}{2} \cdot R \cdot h = R^2 \pi \cdot 2 + 2\pi \cdot R \cdot h$

$2\pi \cdot \frac{3}{2} \cdot R \cdot h = 2\pi R + 2\pi (R + h)$

$\frac{3}{2} \cdot h = R + h$

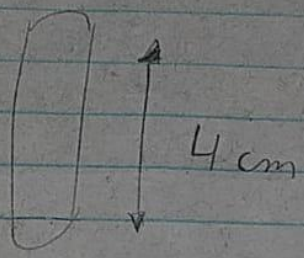
$\frac{h}{2} = R$

$\left(\frac{h}{2}\right)^2 \cdot h = 16$ | $\frac{h^3}{4} = 16$ | $h^3 = 64$

$h = \sqrt[3]{64} = 4$

Letra D

(4)



$R = X$

$(X+12.)^2 \cdot \pi \cdot 4 = x^2 \cdot \pi \cdot 16$

$x^2 + 24x + 144 = x^2 \cdot 4$

$24x + 144 = 3x^2$

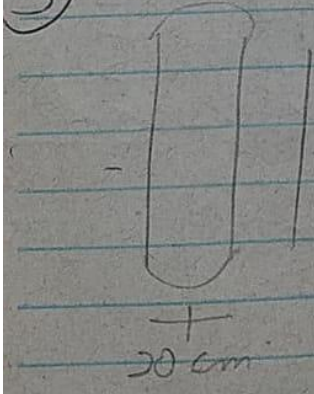
$-x^2 + 8x + 48 = 0$

$x' = -4$ = não convém

$x^2 = 12$

Letra A

(5)



$20^2 \cdot \pi \cdot 0,08 = 32\pi$

$V = 32\pi$

$32 \cdot 3,14 = 100,48 cm$

Letra B

Pirâmides

①

$A = x$ | $h = 8\,cm$
$B = 2x$ | $V = 48\,cm^3$

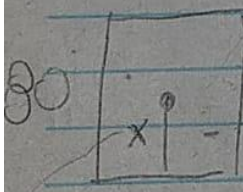
$$48 = AB \cdot h \cdot \frac{1}{3} \quad | \quad 48 = \frac{16x^2}{3}$$

$16x^2 = 144$
$x^2 = 9$
$x = 3$

Letra C

②

$$A_B = 80 \cdot 80 = 6400\,mm^2$$



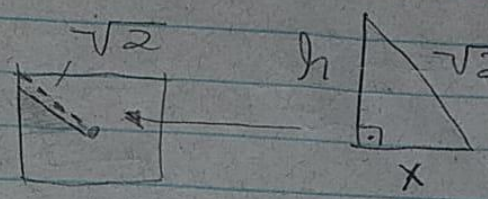
$$x = \frac{80}{2} = 40$$

Letra E

$m^2 = 40^2 + 30^2$
$m^2 = 2500\,mm$
$m = 50\,mm$

$$A_T = 6400 + 4 \cdot \frac{(50 \cdot 80)}{2} = 14.400$$

③



$\sqrt{2}^2 + \sqrt{2}^2 = 4$

$\sqrt{4} = 2$

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

$h^2 = \sqrt{2}^2 - 1$

$h^2 = 2 - 1$

$h = 1$

∴ Letra C

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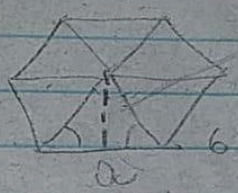
④



$x = a^2 - \left(\frac{a}{2}\right)^2$

$x = a^2 - \frac{a^2}{4}$

$x^2 = \frac{3a^2}{4}$

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

$A_B = \frac{6 \cdot \frac{\sqrt{3}a}{2} \cdot a}{2}$

$A_B = \frac{3\sqrt{3}a^2}{2}$

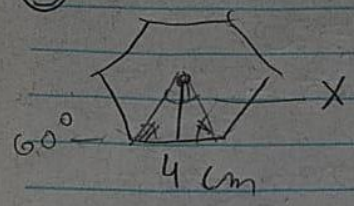
$V = \frac{3\sqrt{3}a^2}{2} \cdot b\sqrt{3} \cdot \frac{1}{3}$

$V = \frac{9a^2b}{6}$

$V = \frac{3a^2b}{2}$

∴ Letra A

⑤



$x = \frac{4\sqrt{3}}{2}$

$AB = \frac{6 \cdot \frac{4\sqrt{3}}{2} \cdot 4}{2}$

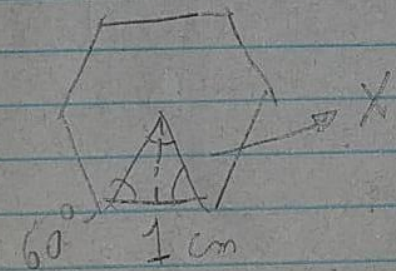
$AB = 24\sqrt{3}$

$V = 24\sqrt{3} \cdot 6\sqrt{3} \cdot \frac{1}{3}$

$V = 144\ cm^3$

Letra D

⑥



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

$AB = \frac{6 \cdot \frac{\sqrt{3}}{2}}{2} = \frac{6\sqrt{3}}{4}$

$V = \frac{3\sqrt{3}}{2} \cdot 8 \cdot \frac{1}{3} = \frac{24\sqrt{3}}{6}$

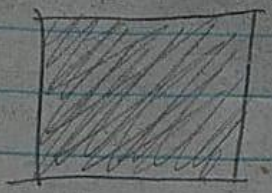
$V = 4\sqrt{3}$

Letra A

Seg | Ter | Qua | Qui | Sex | Sáb | Dom

(7)

Pirâmide

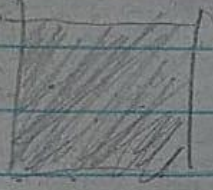


2a

$A_B = 4a^2$

$V = \frac{4h_1 a^2}{3}$

Prisma



a

$AB = a^2$

$V = a^2 h_2$

$$\frac{\frac{4h_1 a^2}{3}}{a^2 h_2} = \frac{4h_1 a^2}{3h_2 a^2} = 1$$

$$\frac{4 \cdot 3}{3 \cdot 4} = \frac{12}{12} = 1 \quad \Big| \quad \frac{h_1}{h_2} = \frac{3}{4}$$

Letra A

Seg Ter Qua Qui Sex Sáb

(8)

$A_{Tol} = 6\sqrt{3}\ cm^2$

$A_{Triângulo} = \frac{6\sqrt{3}}{4}\ cm^2$

$h = \frac{x\sqrt{3}}{2} \quad \left| \quad \frac{x \cdot \frac{x\sqrt{3}}{2}}{2} = \frac{6\sqrt{3}}{4} \right.$

$\frac{x^2\sqrt{3}}{4} = \frac{6\sqrt{3}}{4} \quad \left| \quad x^2 = 6 \right.$

$x = \sqrt{6}$

aresta $= \sqrt{6}$

$h = \frac{a \cdot \sqrt{6}}{3} \quad \left| \quad h = \frac{\sqrt{6} \cdot \sqrt{6}}{3} \right.$

$h = \frac{6}{3} \quad \left| \quad h = 2 \right.$ Letra A