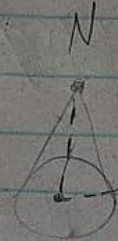
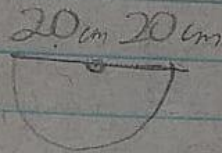


Arthur Hernandes Silva de Souza
CTII 350

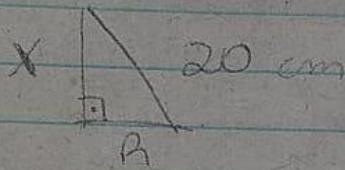
Cones e Troncos

Cones

①



$$h = 20 \text{ cm}$$



$$A_{\text{semi circular}} = \frac{\pi \cdot 20^2}{2}$$

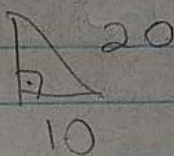
$$A_{\text{total}} = \pi \cdot R \cdot 20$$

$$\frac{\pi \cdot 20^2}{2} = \pi \cdot R \cdot 20$$

$$\cancel{\pi} \cdot 400 = \cancel{\pi} \cdot R \cdot 20 \cdot 2$$

$$400 = 40 R$$

$$R = \frac{400}{40} \quad R = 10 \text{ cm}$$

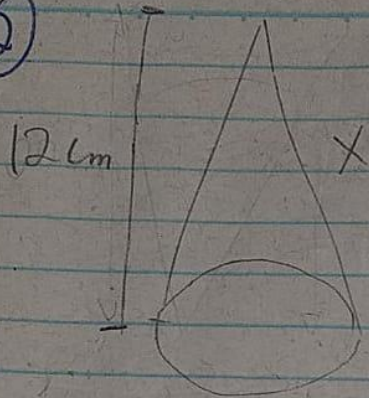


$$400 - 100 = 300$$

$$\sqrt{300} = 10\sqrt{3} \text{ cm}$$

Litro A

②



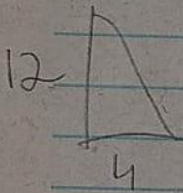
$$V = 64\pi \text{ cm}^3$$

$$64\pi = \frac{1}{3}\pi R^2 \cdot 12$$

$$64 = 4R^2$$

$$16 = R^2$$

$$R = 4$$



$$144 + 16 = 160$$

$$x = \sqrt{160}$$

$$x = \sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 5}$$

$$x = 4\sqrt{10}$$

Litre B

③

$$A_B = 36\pi \text{ cm}^2$$

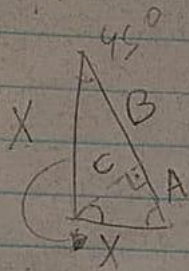
$$36\pi = \pi R^2$$

$$R = 6$$

$$\text{Volume Cone} = \frac{1}{3} \cdot 36\pi \cdot 6 = 72\pi$$

Litre A

④



$$2X^2 = 4$$

$$X = \sqrt{2}$$

$\frac{A}{\sqrt{2}} = \sqrt{2}$	$A = \sqrt{2} \cdot \sqrt{2}$	$c^2 = (\sqrt{2})^2 - 1$
	$A = 2$	$c^2 = 2 - 1$
		$c^2 = 1$
		$c = 1$

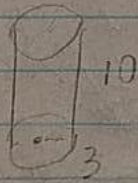
$$B = 2 - 1 = 1$$

$$\text{Cone A} = \text{Cone B} = \frac{1}{3} \cdot \pi \cdot 1^2 \cdot 1 = \frac{\pi}{3}$$

$$\frac{\pi}{3} + \frac{\pi}{3} = \frac{2\pi}{3}$$

Setre E

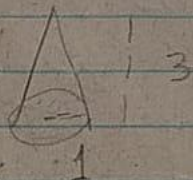
⑤



$$\text{Volume} = 90\pi$$

$$\frac{\text{Volume}}{2} = 45\pi$$

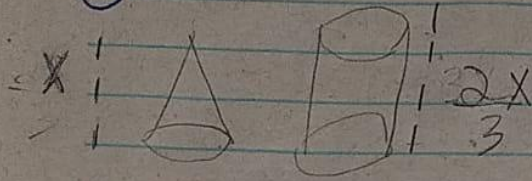
Setre E



$$\text{Volume} = \frac{1}{3} \cdot \pi \cdot 1^2 \cdot 3$$

$$45\pi - \pi = 44\pi$$

⑥



$$\frac{2}{3} \times \text{base}$$

$$\frac{1}{3} \times \text{base} \times X$$

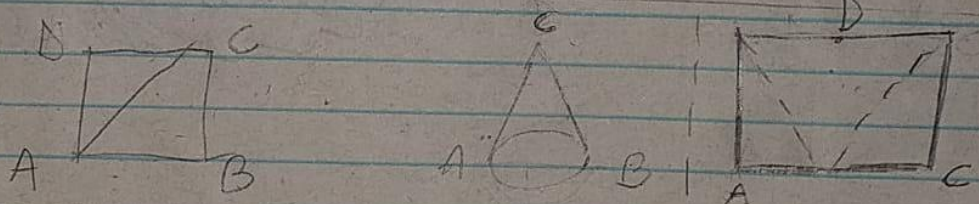
$$\frac{2}{3} \times \text{base}$$

$$\frac{1}{3} \times \text{base}$$

$$\frac{2}{3} \times \text{base} = 2$$

Setro A

⑦



$$V_{ABC} = \frac{1}{3} \text{ base} \cdot h$$

$$V_{ABC} = h \text{ base} - \frac{1}{3} h \text{ base}$$

$$V_{ABC} = \frac{2}{3} h \text{ base}$$

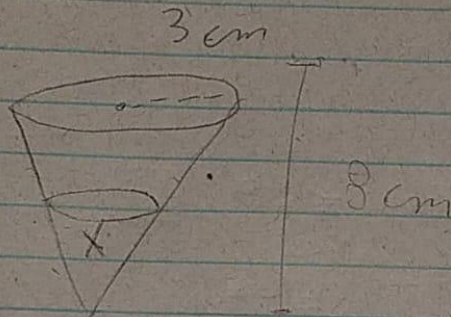
$$\frac{1}{3} h \text{ base}$$

$$\frac{2}{3} h \text{ base}$$

Setro E

truncos

①



$$Vol = \frac{1}{3} \cdot 3^2 \cdot \pi \cdot 8$$

$$Vol = 24\pi$$

$$Vol_x = \frac{x^2 \pi}{2} = 12\pi$$

$$\frac{12\pi}{24\pi} = \frac{x^3}{512}$$

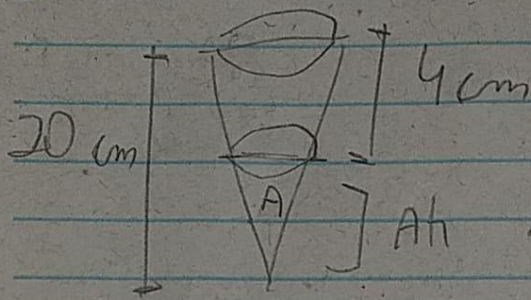
$$\frac{1}{2} = \frac{x^3}{512} \quad | \quad x^3 = \frac{512}{2}$$

$$x^3 = 256 \quad | \quad \sqrt[3]{256} = \sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}$$

$$x^3 = 4^3 \sqrt{4}$$

Litra E

2.



$$Ah = 20 - 4 = 16 \text{ cm}$$

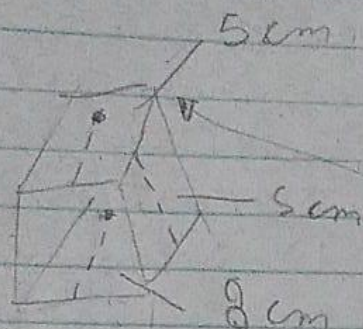
$$\frac{V}{V_A} = \frac{8^3}{10^3} = \frac{512}{1000} = \frac{51,2}{100} = 51,2\%$$

$$V_A = 51,2\%$$

$$100,00 - 51,2 = 48,8\%$$

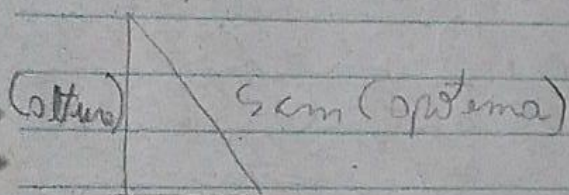
Situa C

④



$$\text{load } M = 8 \cdot 2 = 16$$

$$\text{load } m = 5 \cdot 2 = 10$$



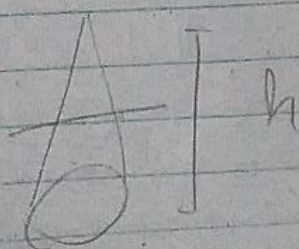
$$\frac{(\text{load } M - \text{load } m)}{2} = \frac{(16 - 10)}{2} = 3$$

$$x^2 = 25 - 9 = 16$$

$$x = \sqrt{16} = 4 \text{ cm}$$

⑤

③



$$\frac{\frac{1}{6} \text{ area } B \cdot h}{\frac{1}{3} \text{ area } B \cdot h} = \frac{x^3}{h^3}$$

$$x^3 = \frac{h^3}{2}$$

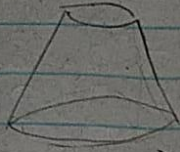
$$\frac{1}{2} = \frac{x^3}{h^3}$$

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

5.

$$r = 2 \text{ m}$$

$$h = 4 \text{ m}$$



$$R = 5 \text{ m}$$

$$V = \frac{4\pi}{3} (5^2 + 2^2 + 2 \cdot 5)$$

$$V = \frac{4\pi}{3} (39) = 52\pi$$

$$A_{\text{Total}} = 4\pi + 25\pi + X$$

$$X = \pi (5+2) \cdot s$$

$$s^2 = 3^2 + 4^2 = 25$$

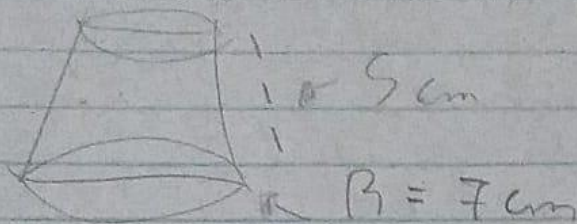
$$s = 5$$

$$X = 35\pi$$

$$A_{\text{Total}} = 64\pi$$

⑥

$$R = 3 \text{ cm}$$



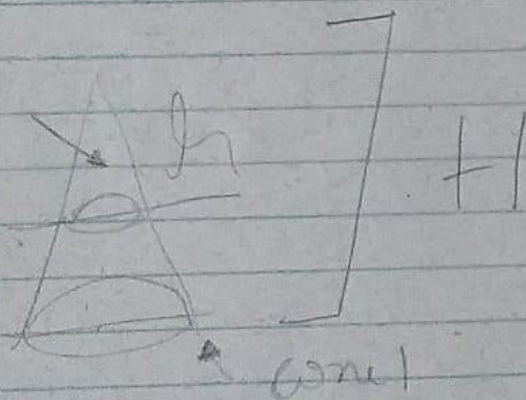
$$V = \frac{\pi R^2}{3} (9 + 49 + 21)$$

$$V = 79\pi$$

litro

⑦

cone



cone

litro A

$$\text{Vol cone 2} = \frac{\text{Vol cone 1}}{2}$$

$$\frac{1}{6} \pi r^2 h = \frac{h^3}{H^3}$$

$$\frac{1}{3} \pi r^2 h = \frac{h^3}{2} \quad h^3 = \frac{H^3}{2}$$

$$h = \frac{H \sqrt[3]{4}}{2}$$