

Nome: Rodrigo Moreira da Silva Data: CT II 317

Cone

1.

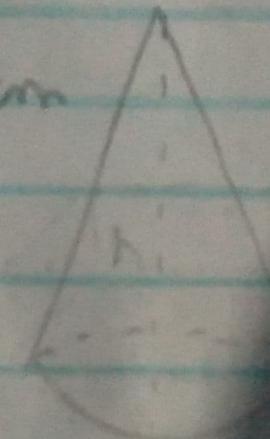


$$\pi r = 20\pi \text{ cm}$$

or

$\frac{1}{2} \pi d$

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



$$\text{Asector} = AL =$$

$$1 \pi 20^* = \pi \cdot 20$$

2.

$$r = 10$$

$$h^2 + r^2 = R^2$$

$$h^2 + 10^2 = 20^2$$

$$h^2 + 100 = 400$$

$$h^2 = 300$$

$$h = \sqrt{300}$$

$$h = 17.32$$

R = 10

2. R. a)

$$\text{volume do cone} = \frac{1}{3} AB \cdot h$$

$$AB \cdot \underline{12} = 64\pi$$

$$12AB^3 = 192\pi$$

$$AB = 16\pi$$

geratriz do cone

$$g^2 = 4^2 + 3^2$$

$$g^2 = 16 + 9 = 25$$

$$g = 160$$

$$\sqrt{g} = \sqrt{4-10}$$

Raio

$$AB = \pi \cdot r^2$$

$$\pi \cdot r^2 = 16\pi$$

$$r^2 = 16$$

$$r = 4$$

3.

$$AB = \pi \cdot r^2$$

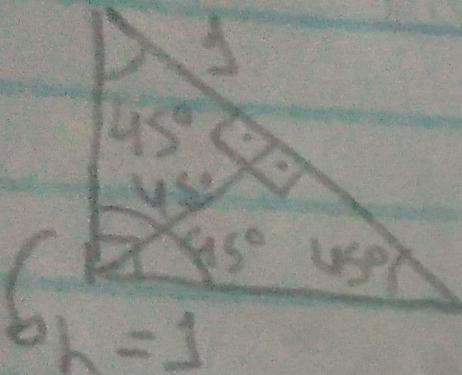
$$36\pi = \pi \cdot r^2$$

$$r^2 = 36$$

$$r = 6 \text{ cm}$$

$$r = h = 6 \text{ cm}$$

4.

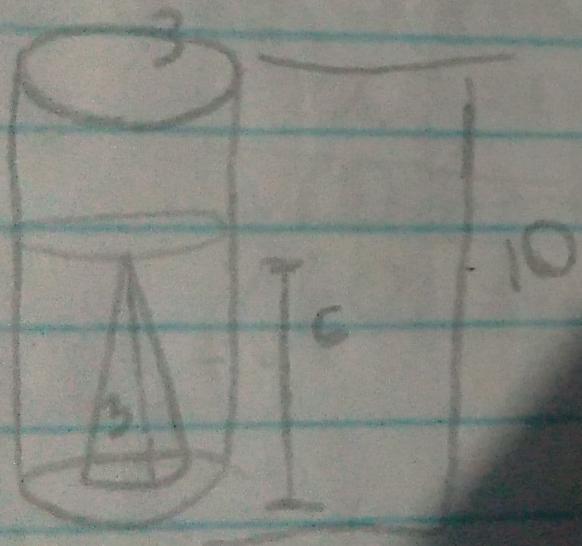


$$V_T = 2 \cdot V_{\text{cone}}$$

$$V_T = 2 \cdot \pi r^2 \cdot h$$

$$V_T = \frac{2\pi}{3} \text{ cm}^3$$

5.



$$V_{\text{cylinder}} = \pi \cdot r^2 \cdot h$$

$$= \pi \cdot 3^2 \cdot 5 = 45\pi$$

$$V_{\text{cone}} = \frac{1}{3} \pi \cdot r^2 \cdot h =$$

$$= \frac{1}{3} \pi \cdot 3^2 \cdot 6 = \pi$$

$$V_{\text{rest}} = 45\pi - \pi = 44\pi$$

R.e

6.

$$V_{cone} = \frac{1}{3} AB \cdot h$$

Raio

$$V_{prisma} = AB \cdot 2 \cdot h$$

 V_{prisma} com h da cone =

$$V_{prisma} = AB \cdot \frac{2}{3} h$$

$$V_{cone} = \frac{1}{3} AB \cdot h$$

$$\therefore = \boxed{12}$$

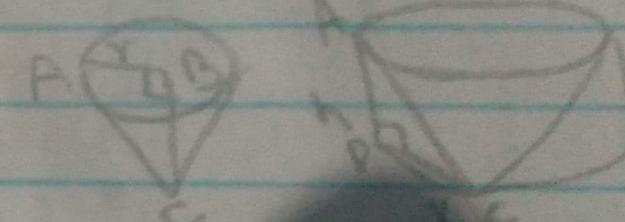
(d. a)

7.

$$r \rightarrow \overline{AB}$$

$$h \rightarrow BC$$

$$V_{ABC} \cdot V_{ADC} \rightarrow V_{Volume}$$



$$V_{ABC} = V_{cone} = \frac{1}{3} \pi \cdot r^2 \cdot h$$

$$V_{ABC} = V_{cilindro} - V_{cone} = \pi \cdot r^2 \cdot h - \frac{1}{3} \pi \cdot r^2 \cdot h = \boxed{0}$$

$$Raio = \frac{1}{3} \pi \cdot r^2 \cdot h$$

$$\frac{2}{3} \pi \cdot r^2 \cdot h \quad \boxed{2}$$

Trovare

1.



$$V_g = \frac{1}{3} \pi \cdot 8 \cdot 3 \cdot 8 = 24\pi \text{ cm}^3$$

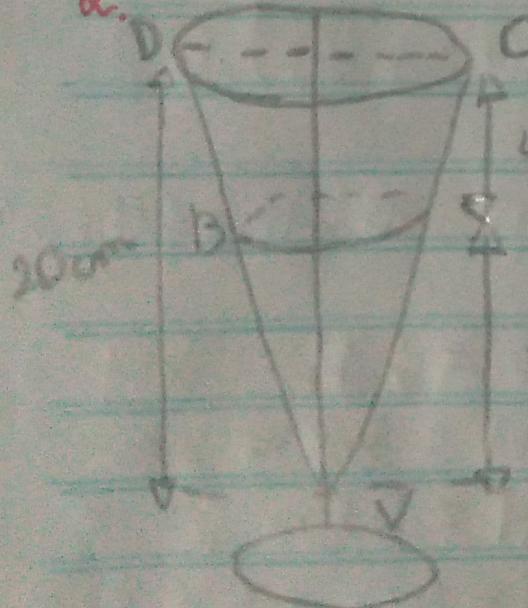
$$V_p = \frac{1}{2} \cdot V_g = \frac{1}{2} \cdot 24\pi \rightarrow V_p = 12\pi \text{ cm}^3$$

$$\frac{V_p}{V_g} = \left(\frac{x}{8}\right)^3 = \frac{1}{2}\pi = \frac{2^3}{24\pi} = \frac{x^3}{8^3} = \frac{2 \cdot 4 \cdot 8^2}{x^3} = \frac{3\sqrt[3]{x^3}}{8} = \frac{3\sqrt[3]{4 \cdot 2^3 \cdot 2^3}}{8}$$

$$x = 4,5 \text{ cm}$$

R

2.



$$V_E = \text{espuma} \quad V_S = (16)^3 = 4096 \text{ cm}^3$$

$$V_S = \text{concreto} \quad V_C = (20)^3 = 8000 \text{ cm}^3$$

$$V_C = 60\% \quad V_S = 64\% \quad \frac{16}{20} = 0,8$$

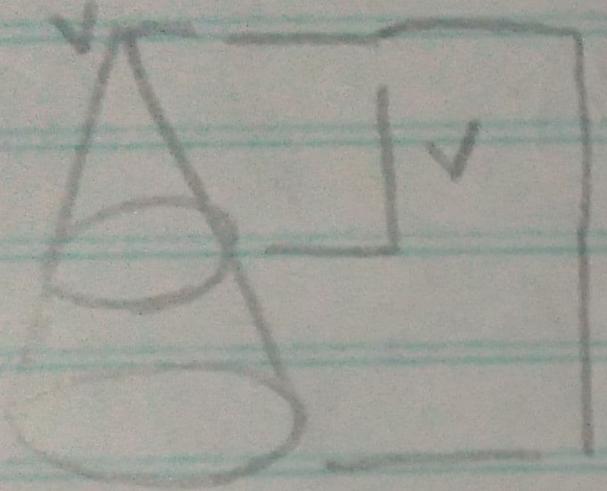
$$V_E = V_C - V_S = V_C - 64\% \cdot V_C = 36\% \cdot V_C$$

$$= 0,488 V_C$$

$$V_E = 48,890 \cdot V_C = 50\% \cdot V_C$$

A.C.J

3.



$$\frac{y}{h} = \frac{1}{\sqrt[3]{2}}$$

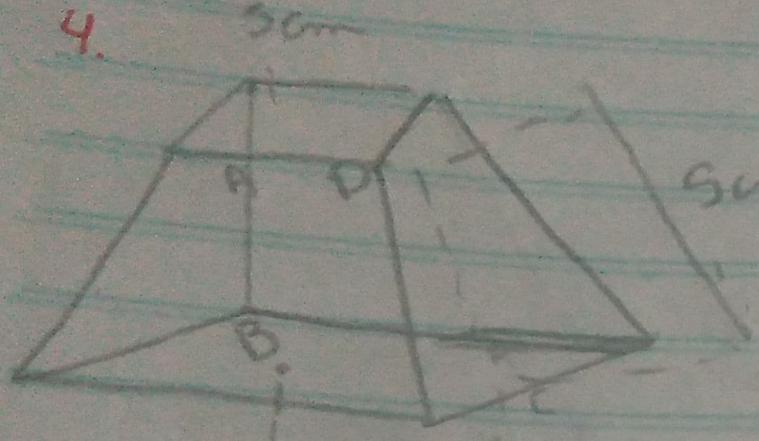
$$\frac{x}{h} = \frac{1}{\sqrt[3]{2}} \cdot \frac{\sqrt[3]{2}}{\sqrt[3]{2}}$$

$$(y/h)^3 = 2x/h = \frac{2x}{h}$$

$$h = 3\sqrt{2}$$

$$5x$$

4.

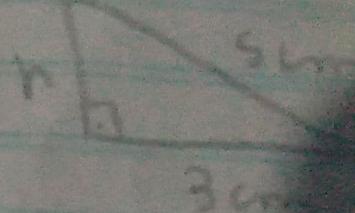


Sum

A Sum D

B

Sum E 3cm C



$$5^2 = 3^2 + h^2$$

$$25 = 9 + h^2$$

$$-h^2 = 9 - 25$$

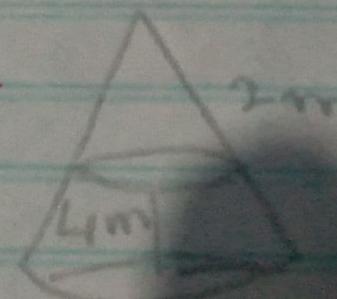
$$-h^2 = -16 \quad (, -3)$$

$$h^2 = 16$$

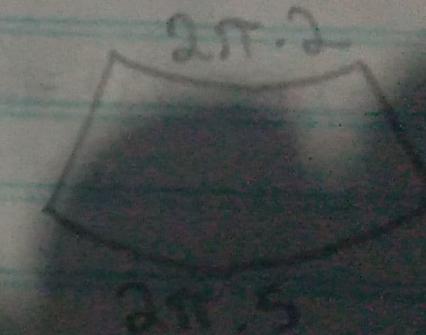
$$\boxed{h = \sqrt{16}}$$

$$\boxed{h = 4\text{cm}}$$

5.



5m



3m

$$A_f = \pi r^2 + \pi s^2 + 10\pi =$$

$$= 4\pi + 4\pi + 10\pi = 18\pi$$

$$h^2 = \frac{16}{16}$$

$$h = \sqrt{16}$$

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

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

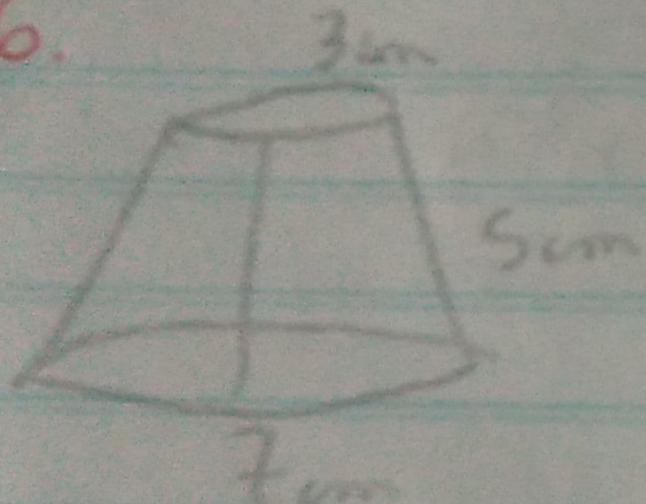
$$\frac{h}{H} = \frac{2}{5} \rightarrow h = \frac{2H}{5} \rightarrow H - 4 = \frac{2H}{5} \rightarrow \frac{5H - 20}{5} = \frac{2H}{5} \rightarrow 5H - 20 = 2H \rightarrow 3H = 20 \rightarrow H = 20 \rightarrow h = \frac{8}{3}$$

$$V = \frac{1}{3}\pi r^2 \cdot H - \frac{1}{3}\pi r^2 \cdot h$$

$$V = \frac{1}{3}\pi \cdot 25 \cdot \frac{20}{3} - \frac{4\pi}{3} \cdot \frac{8}{3}$$

$$\frac{\pi}{3} = \left(\frac{500}{3} - \frac{32}{3} \right) \rightarrow \frac{\pi}{3} = \frac{468}{9} = 52\pi \text{ m}^3$$

6.



$$\pi z \cdot (R^2 + r^2 + Rr)$$

$$\frac{\pi \cdot 5}{\cancel{P}} \cdot (7^2 + 3^2 + 7 \cdot 3) =$$

$$\pi \cdot (49 + 9 + 21) = 89\pi$$

2

7.