S T Q Q S S D

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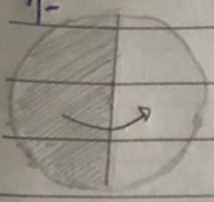
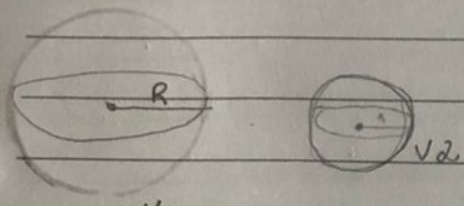
1-



C

2-



$V1 = V2 \cdot 1000000$

$\frac{4}{3}\pi R^3 = \frac{4}{3}\pi \cdot 1^3 \cdot 1000000$

$R^3 = 1000000$

$R = \sqrt[3]{1000000}$

$R = \sqrt[3]{10^6}$

$R = 10^2$

$\boxed{R = 100}$

3- $V_{R1} = \frac{4\pi \cdot R^3}{3} \Rightarrow V_{R2} = \pi 1 \cdot 2R^3) \cdot h \Rightarrow V_{R2} = \pi (2R)^3 \cdot 4R$

$$\left(\frac{\frac{4\pi \cdot R^3}{3}}{\frac{\pi (2R)^3 \cdot 4R}{2}} \right) \Rightarrow \frac{4\pi \cdot R^3}{\pi \cdot 4R^3 \cdot 12R}$$

$\frac{4R^3}{48R^3} \Rightarrow \frac{4}{48} \Rightarrow \boxed{\frac{1}{12}}$ | E |

S T Q Q S S D

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S T Q Q S S D

4-

$V_{cilindro} = V_{es1} + V_{es2}$

$V_{cilindro} = 4/3\pi R^3 + 4/3\pi R^3$

$V_{cilindro} = 4/3\pi . 1^3 + 4/3\pi 2^3$

$V_{cilindro} = 4/3\pi + 4/3\pi 8$

$V_{cilindro} = 4/3\pi + 4.8\pi/3$

$V_{cilindro} = 4/3\pi + 32\pi/3$

$V_{cilindro} = \frac{36\pi}{3} \Rightarrow 12\pi$

$12\pi = \pi . r^2 . h$

$12\pi = \pi . r^2 . 3$

$\frac{12\pi}{3\pi} = r^2$

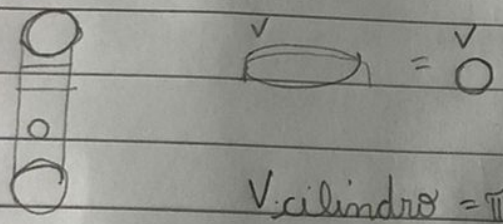
$r^2 = 4$

$r = \sqrt{4}$

$\boxed{r = 2}$

B

5-



$V_{cilindro} = \pi 6^2 . 1$

$V_{cilindro} = 36\pi$

$V_{es\ Esfera} = 36\pi$

$4/3\pi . r^3 = 36\pi$

$4.\pi r^3 = 36\pi . 3$

$4\pi r^3 = 108\pi$

$r^3 = \frac{108\pi}{4\pi}$

$r^3 = 27$

$r = \sqrt[3]{27^3}$

$r = \sqrt{3^3}$

$\boxed{r = 3}$

S T Q Q S S D

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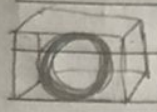
6- Vesper 2 = $288\pi\ cm^3$



$a = d = 2R$

$d = 2.R$

$d = 2.6$

$d = 12\ cm$

$a = d$

$d = 12\ cm$

$288\pi = 4/3.\pi R^3$

$3.288\pi = 4\pi . R^3$

$864\pi = 4\pi . R^3$

$R^3 = 864\pi / 4\pi$

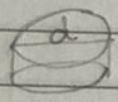
$R^3 = 216$

$R = \sqrt[3]{216}$

$R = \sqrt[3]{6^3}$

$R = 6\ cm$

E

7- 

$h = 16\ cm$

$d = 20\ cm$

$R = d/2$

$R = 10\ cm$

$r = 2\ cm$

$V_{panela} = A_{base}.h$

$V_{panela} = \pi . R^2 . h$

$V_{panela} = \pi . 10^2 . 16$

$V_{panela} = \pi . 100 . 16$

$V_{panela} = 1600\pi$

$V_{bolinha} = 4/3 . \pi . r^3$

$V_{bolinha} = 4/3 . \pi . 2^3$

$V_{bolinha} = 4/3 . \pi . 8$

$V_{bolinha} = \frac{32\pi}{3}$

$quant\ bd = \frac{V_{panela}}{V_{bolinha}}$

$quant\ bd = \frac{1600\pi}{32/3}$

$quant\ bd = \frac{1600\pi . 3}{32\pi}$

$quant\ bd = 4800\pi / 32\pi$

$quant\ bd = 150$

D

8- $\frac{\frac{4\pi R^3}{3}}{2} = \pi R^2 . H = \frac{\pi . R^2 . h}{2}$

$\frac{4\pi R}{\frac{3}{2}} = \pi . H = \pi . \frac{R}{3}$

$\frac{2R}{3} = H = \frac{h}{3}$

$\frac{2R}{3} = H = \frac{h}{3}$

$2R = 3H = 3h$

$2R = 3H = h$

$2R = h = 3H$

D

S T Q Q S S D

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2- $\frac{\text{A superficie esferica}}{\text{A cubo circunscripto}} = \frac{4\pi \cdot r^2}{6a}$

$\frac{Ase}{Acc} = \frac{4\pi \cdot (a/2)^2}{6a} \Rightarrow \frac{Ase}{Acc} = \frac{4\pi a^2}{4} \Big/ 6a^2$

A

$\frac{Ase}{Acc} = \frac{\pi a^2}{6a^2} \Rightarrow \frac{Ase}{Acc} = \frac{\pi}{6}$

3- $R = \frac{d}{2} \Rightarrow R = \frac{a\sqrt{3}}{2}$

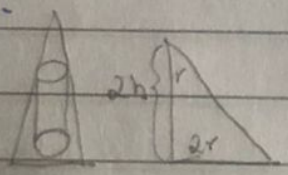
$\frac{V esfera}{V cubo} = \frac{\frac{4\pi R^2}{3}}{a^3} \Rightarrow \frac{Ve}{Vc} = \frac{4\pi}{3} \left(\frac{a\sqrt{3}}{2}\right)^3 \Big/ 3$

$\frac{Ve}{Vc} = \frac{4\pi}{3} \frac{a^3 3\sqrt{3}}{8} \Rightarrow \frac{Ve}{Vc} = \frac{12\sqrt{3}}{24}$

$\frac{Ve}{Vc} = \frac{\sqrt{3}}{2}$

B

4.



$4 = 12$

$R = 3$

$r = r$ del cilindro $=$ alt cilindro $= 2r$

$\frac{2r}{(3r)} = \frac{12}{3}$

__/__/__

S T Q Q S S D

$32r = 12(3-r)$

$6r = 36 - 12r$

$6r + 12r = 36$

$18r = 36$

$r = \frac{36}{18}$

$r = 2$

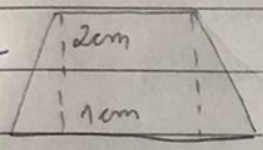
$V_{cilindro} = \pi . r^2 . h$

$V_{cilindro} = \pi . 2^2 (2r)$

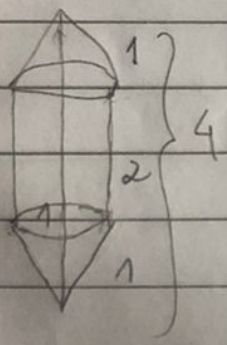
$V_{cilindro} = \pi . 2^2 . 2.2$

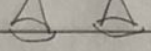
$V_{cilindro} = \pi . 4 . 4$

$V_{cilindro} = 16\pi\ m^3$

5- 

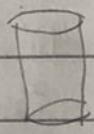
V. solido revolução = ?





$r = 1$

$h = 1$



$r = 1$

$h = 1$

$2 . V_{cone}$

$2 . 1/3\ \pi\ 1^2 . 1$

$2/3 . \pi . 1 . 1$

$2/3\ \pi$

$V_{cilindro}$

$\pi . R^2 . H$

$\pi . 1^2 . 2$

2π

$V_{solido\ revolução} = \frac{2\pi}{3} + 2\pi$

$V_{solido\ revolução} = \frac{4.2\pi}{3}$

$V_{solido\ revolução} = \frac{8\pi}{3}\ cm^3$