

Danielle Medeiros Amaral - CT11317

Cones

$$1. V_{\text{cone}} = \frac{\pi \cdot r^2}{3} \quad V = \frac{\pi \cdot 3^2}{3} \cdot 8 \quad V = 24\pi \text{ cm}^3 \quad r = 12\pi \text{ cm}^3$$

$$\frac{V}{v} = \frac{H^3}{h^3} \quad \frac{24\pi}{12\pi} = \frac{8^3}{h^3} \quad 2 = \frac{8^3}{h^3} \quad 2h^3 = 8^3 \quad h^3 = \frac{512}{2} \quad h = \sqrt[3]{256}$$

$$h = \sqrt[3]{2^3 \cdot 2^3 \cdot 2^3} \quad h = 4\sqrt[3]{4\text{cm}} \quad \text{Letra E}$$

$$2. \frac{v}{V} = \left(\frac{H}{h}\right)^3 \quad \frac{v}{V} = \left(\frac{16}{20}\right)^3 \quad \frac{v}{V} = \left(\frac{4}{5}\right)^3 \quad \frac{v}{V} = \frac{64}{125} \quad v = \frac{64v}{125} = 50\% \quad \text{Letra C}$$

$$45^2 = h^2 + (8-5)^2 \quad 25 = h^2 + 9 \quad 25 - 9 = h^2 \quad h = 4\text{cm}$$

$$7. V = \frac{1}{3} \pi \cdot R^2 \cdot H \quad V_3 = V - V_2 \quad V_3 = \frac{1}{3} \pi \cdot R^2 \cdot H - \quad V = \frac{1}{3} \pi (HR^2 - hr^2)$$

$$V_2 = V_3 \quad \frac{1}{3} = \pi \cdot r^2 \cdot h \quad r^2 - h = HR^2 - h \quad 2r^2 \cdot h = HR^2$$

$$H = 2 \left(\frac{r}{R}\right)^2 \quad \frac{r}{R} = \frac{H}{2} \quad \frac{H}{R} = \frac{h}{r} \quad \frac{r}{R} = \frac{h}{H}$$

$$\left(\frac{r}{R}\right)^2 = \left(\frac{h}{H}\right)^2 \quad \frac{h}{H} = \frac{4^2}{4} \quad 4h = H^3 \quad H = \sqrt[3]{4h}$$