

Tarea Básica: Conos

$$1) 2\pi r = (40\pi n)/2$$

$$2\pi r = 20\pi$$

$$r = 10$$

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

$$h^2 = 400 - 100$$

$$h^2 = 300$$

$$h = \sqrt{300}$$

$$h = 10\sqrt{3}$$

(A)

$$\begin{array}{r} 300 \\ 250 \\ \hline 50 \\ 25 \\ \hline 5 \\ 5 \\ \hline 0 \\ 3 \\ \hline 3 \\ 1 \end{array}$$

$$2) \frac{Ab. 12}{3} = 64\pi$$

$$12Ab = 192\pi$$

$$Ab = 16\pi$$

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

$$r^2 = 16$$

$$r = 4$$

$$g^2 = 4^2 + 12^2$$

$$g^2 = 16 + 144$$

$$g^2 = 160$$

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

$$\begin{array}{r} 160 \\ 120 \\ \hline 40 \\ 20 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 80 \\ 60 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 40 \\ 20 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 20 \\ 10 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 10 \\ 5 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 5 \\ 5 \\ \hline 0 \end{array}$$

(B)

$$3) Ab = \pi r^2$$

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

$$r=6 \quad h=6$$

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

$$V = \frac{1}{3}\pi 36 \cdot 6$$

$$V = 72\pi$$

(A)



$$V = \frac{\pi r^2 h}{3}$$

$$2^2 = 2x^2$$

$$4 = 2x^2$$

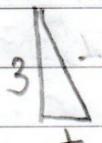
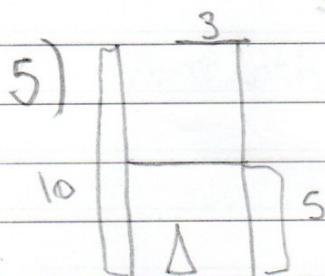
$$x^2 = 2$$

$$x = \sqrt{2}$$

$$V = \frac{\pi (\sqrt{2})^2 \sqrt{2}}{3}$$

$$\frac{2\pi\sqrt{2}}{3}$$

(E)



$$V_{C1} = \pi r^2 h = 3^2 \cdot 5\pi = 45\pi$$

$$V_{CO} = \pi r^2 h / 3 = 3^2 \pi \cdot 5 / 3$$

$$V_{CO} = \pi$$

$$V_{total} = 45\pi - \pi = 44\pi$$

(E)

$$6) \sqrt{c} = \frac{2}{3} Ab \cdot h$$

$$\sqrt{p} = Ab \cdot \frac{2}{3} h$$

$$\frac{\sqrt{p}}{\sqrt{c}} = \frac{Ab \cdot \frac{2}{3} h}{\frac{2}{3} Ab \cdot h} = 2 \quad (A)$$

$$7) \sqrt{ABC} = \sqrt{\text{cone}} = \frac{2}{3} \pi r^2 h$$

$$\sqrt{ADC} = \sqrt{\text{cyl}} - \sqrt{\text{cone}} = \pi r^2 h - \frac{2}{3} \pi r^2 h$$

$$\sqrt{ADC} = \frac{1}{3} \pi r^2 h$$

$$\frac{\sqrt{ABC}}{\sqrt{ADC}} = \frac{\frac{2}{3} \pi r^2 h}{\frac{1}{3} \pi r^2 h} = \frac{\frac{2}{3}}{\frac{1}{3}} = \frac{1}{2} \quad (E)$$

Tanela Básica - Troncos

$$1) \sqrt{v_{cone}} = \frac{\pi 3^2}{3} \cdot 8 = 24\pi$$

$$\frac{V}{v} = \frac{H^3}{h^3}$$

$$v = 12$$

$$\frac{24\pi}{12\pi} \frac{8^3}{h^3} \Rightarrow 2 = \frac{8^3}{h^3} \Rightarrow 2h^3 = 8^3$$

$$h^3 = \frac{512}{2} \Rightarrow h = \sqrt[3]{256}$$

(E)

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

$$\begin{array}{r} 256 | 2 \\ 128 | 2) 2 \\ 64 | 2 \\ 32 | 2) 2 \\ 16 | 2) 2 \\ 8 | 2 \\ 4 | 2 \\ 2 | 2 \end{array}$$

$$2) \sqrt[5]{\frac{16}{20}} = \left(\frac{16}{20}\right)^3 = \left(\frac{4}{5}\right)^3$$

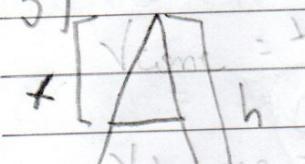
$$\frac{V}{V} = \frac{64}{125}$$

(C)

$$\frac{64}{125} \approx 0,51$$

50%

3)



$$\text{Volume} = \frac{1}{3}\pi r^2 h \quad \frac{\sqrt{2}}{\sqrt{1}} = \frac{1}{2}$$

$$V_{\text{prism}} = \pi \cdot \frac{2}{3} (R^2 + r^2 - Rr)$$

$$\frac{1}{2} = \left(\frac{x}{h}\right)^3$$

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

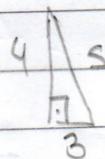
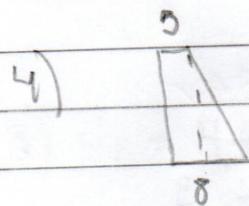
$$h^3 = 2x^3 = (R^2 + r^2 - Rr)$$

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

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

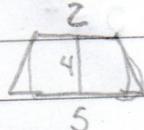
$$x = \frac{h}{\sqrt[3]{2}} \cdot \frac{\sqrt[3]{2}}{\sqrt[3]{2}}$$

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



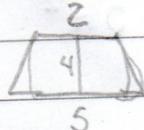
4 cm

4)



$$A = \pi \cdot 10 \cdot 5 = 50\pi$$

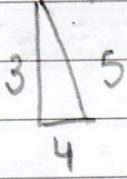
5)



$$V = \frac{\pi}{3} 4 (5^2 + 2^2 + 10)$$

$$V = \frac{4}{3} \pi 25 + 4 + 10$$

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

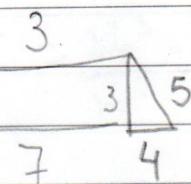
6) 

$$V = \pi \frac{3}{3} (7^2 + 3^2 + 21)$$

$$V = \pi \cdot 49 + 9 + 21$$

$$V = 79\pi$$

(1)



7) $\frac{B}{H} = \frac{r}{h}$ $r = \frac{Rb}{H}$

$$\sqrt{C} = \frac{\pi R^2 H}{3}$$

$$\sqrt{c} = \frac{\pi \left(\frac{Rb}{H}\right)^2 h}{3} = \frac{\pi R^2 b^2 h}{3 H^2}$$

$$V = \frac{\pi R^2 (H^3 - h^3)}{3H^2}$$

$$\frac{\pi R^2 b^3}{3H^2} = \frac{\pi R^2 (H^3 - h^3)}{3H^2} \Rightarrow \pi R^2 b^3 = \pi R^2 (H^3 - h^3)$$

$$h^3 = H^3 - h^3 \Rightarrow 2h^3 = H^3 \Rightarrow h^3 = H^3/2$$

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

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

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

(A)