Tarifa Básica

• CILINDROS

a) volume maior

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

$V = \pi \cdot 10^2 \cdot 40$

$V = 100\pi \cdot 40$

$V = 4000\pi$

qtd. agua

$\dfrac{4000\pi}{5} = 800\pi$

altura

$V = \pi r^2 h$

$\pi \cdot 5^2 h = 800\pi$

$25h = 800$

$h = \dfrac{800}{25}$

$\boxed{h = 32}$

R: (A)

02) $V = \pi r^2 h$

$h = d \Rightarrow h = 2r$

$V = \pi 2r^3$

$54\pi = \pi 2r^3$

$54 = 2r^3$

$r^3 = \dfrac{54}{2}$

$r^3 = 27$

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

$\boxed{r = 3}$

$A_{total} = 2\pi r \cdot (r + h)$

$A_{total} = 2\pi 3 (3 + 6)$

$A_{total} = 6\pi (9)$

$A_{total} = 54$

Razão $\dfrac{1}{27}$ raio = 3

$h = 2r$

$h = 2 \cdot 3$

$\boxed{h = 6}$

04) $V = \pi r^2 h$

$r = (r + 12)^2$

$h = r^2 (4 + 12)$

$\rightarrow V = \pi (r + 12)^2 4$

$V = r^2 (4 + 12)$

$V = \pi (r^2 + 24r + 44) 4 = r^2 (16)$

$V = \pi (4r^2 + 96r + 576) = 16r^2$

$V = \pi 4r^2 + 96r + 576 - 16r^2$

$V = \pi -12r^2 + 96r + 576$ 12

$V = -r^2 + 8r + 48$ (-1)

$V = r^2 - 8r - 48$

$a = 1 \quad b = -8 \quad c = -48$

$\Delta = (-8)^2 - 4 \cdot 1 \cdot (-48)$

$\Delta = 64 + 192$

$\Delta = 256$

$x = \dfrac{8 \pm 16}{2}$

$x_1 = \dfrac{8 + 16}{2} = \dfrac{24}{2}$ ⓬

R: (A)

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05) $V = \pi \cdot r^2 \cdot h$ $V = \pi \cdot 20^2 \cdot 1008$ $0,8m = 0,08\,m$

$r = 20\,cm$ $V = 400\pi \cdot 0,08$

$V = 32\pi$

$V = 32 \cdot 3,14$

$V = 100,48 \sim \boxed{100,5\,m^3}$

                            R: (B) //

• PIRÂMIDES

01) $A_{base} = b \cdot h$ $Volume = \dfrac{A_{base} \cdot h}{3}$

$A_{base} = x \cdot 2x$

$A_{base} = 2x^2\,cm^2$ $48 = \dfrac{2x^2 \cdot 8}{3}$

                       $16x^2 = 48 \cdot 3$

                       $16x^2 = 144$

                        $x^2 = \dfrac{144}{16}$

                       $x^2 = 9$

                       $x = \sqrt{9}$

                   $\boxed{x = 3}$ R: (C)

02) $A = A_{base} + A_{lateral}$ $A_{base} = l^2$

$A = 6400 + 4\left(\dfrac{80 \cdot 50}{2}\right)$ $A_{base} = 80 \cdot 80$

                      $A_{base} = 6400\,mm$

$A = 6400 + 4 \cdot 2000$

$\boxed{A = 14400\,mm^2}$ $Altura = \left(\dfrac{80}{2}\right)^2 + 30^2$

                         $h^2 = 2500$

                         $h = \sqrt{2500}$

                         $h = 50\,mm$

                             R: (E) //

spiral

05) $V = A_{lateral} \cdot h$

$V = 3.4^2 \dfrac{\sqrt{3}}{2} \cdot 6\sqrt{3}$

$V = 3 \cdot 16 \dfrac{\sqrt{3}}{2} \cdot 6\sqrt{3}$

$V = 24 \cdot 6 \cdot 3$

$\boxed{V = 432 \, cm^3}$

06) $V = \dfrac{A_{base} \cdot h}{3}$

$V = \dfrac{6 \cdot (1 \cdot 2\sqrt{3}) \cdot 8}{4/3}$

$V = \dfrac{6 \cdot 1\sqrt{3} \cdot 8}{4/3}$

$V = \dfrac{48\sqrt{3}}{12}$

$\boxed{V = 4\sqrt{3}} \qquad R:(A)_4$

07) $b = 2a \qquad \dfrac{4a^2 h \cdot a^2 h}{3}$

$V = \dfrac{(2a)^2 h}{3} \qquad \dfrac{4a^2 h}{3} \cdot \dfrac{1}{a^2 h}$

$V = A_{base} \cdot h \qquad \dfrac{4}{3}$

$V = a^2 h$

08) Altura do tetraedo

$A_{lateral} = a^2\sqrt{3}$

$6\sqrt{3} = a^2\sqrt{3}$

$\dfrac{6\sqrt{3}}{\sqrt{3}} = a^2$

$6 = a^2$

$a^2 = \sqrt{6}$

$altura = \dfrac{a\sqrt{6}}{3}$

$h = \dfrac{\sqrt{6} \cdot \sqrt{6}}{3}$

$h = \dfrac{\sqrt{36}}{3}$

$h = \dfrac{6}{3}$

$\boxed{h = 2 \, cm}$

$R:(A)_{11}$