CILINDROS E PIRÂMIDES

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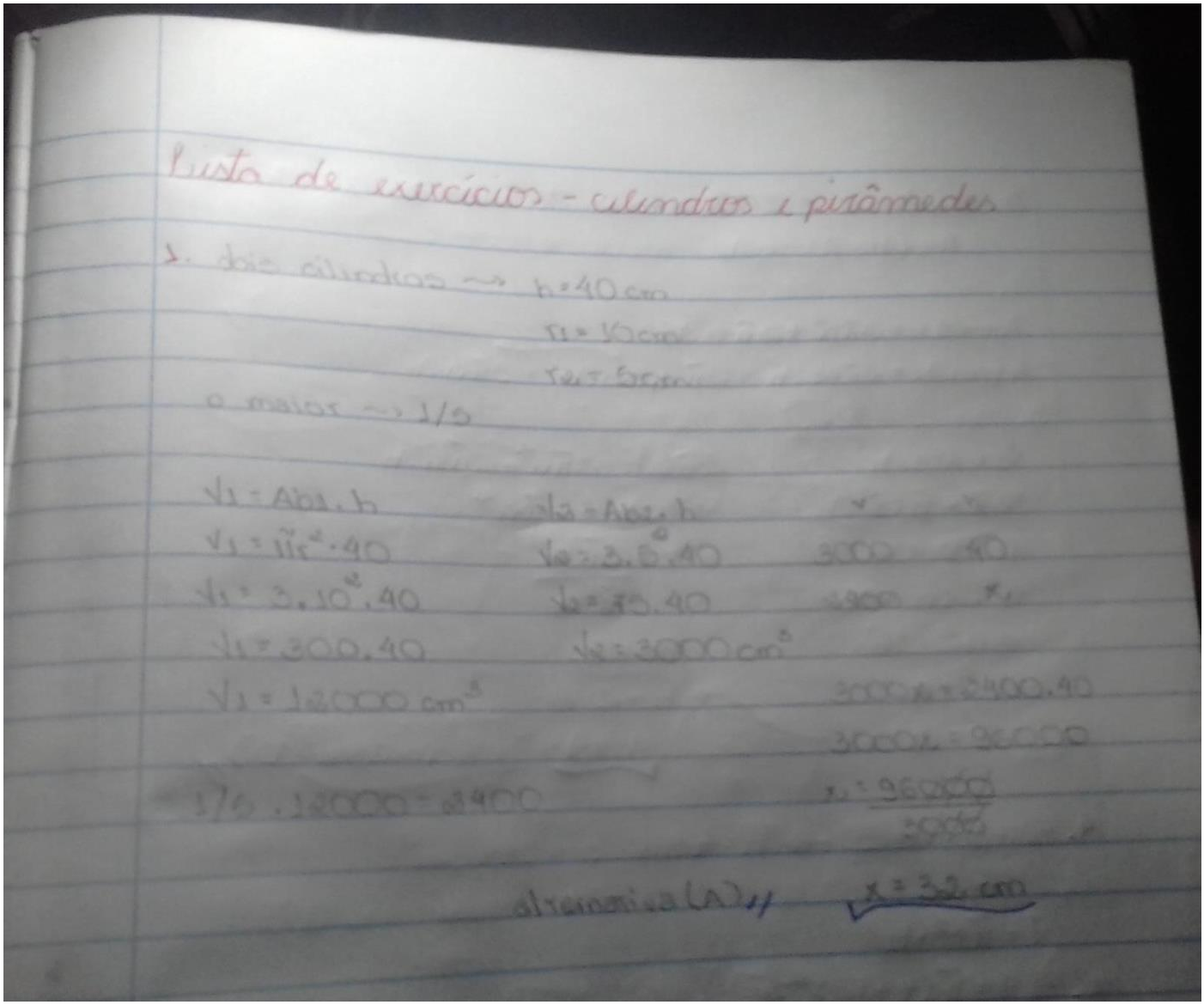


12000 cm^3

$\frac{1}{5} \cdot 12000 = 2400$

$3000x = 2400 \cdot 40$

$3000x = 96000$

$x = \frac{96000}{3000}$

alternativa (A)//

$x = 32$ cm

2. 2 cilindros retos

C1 ⟶ h_1 = diâmetro da base = $r_1 \cdot 2$

C2 ⟶ h_2 = 8 . diâmetro da base = $8 \cdot r_2 \cdot 2$

$\frac{v_1}{v_2} = \frac{1}{27}$ ⟶ $\frac{Ab_1 \cdot h_1}{Ab_2 \cdot h_2} = \frac{1}{27}$ ⟶ $\frac{\pi r_1^2 \cdot r_1 \cdot 2}{\pi r_2^2 \cdot 8 \cdot r_2 \cdot 2} = \frac{1}{27}$

$\frac{r_1^2 \cdot r_1 \cdot 2}{r_2^2 \cdot 8 \cdot r_2 \cdot 2} = \frac{1}{27}$

$\frac{r_1^3}{r_2^3 \cdot 8} = \frac{1}{27}$

⟶ $\frac{r_1^3}{r_2^3} = \frac{8}{27}$

$\sqrt[3]{\frac{r_1^3}{r_2^3}} = \sqrt[3]{\frac{8}{27}}$

⟶ $\frac{r_1}{r_2} = \frac{2}{3}$

alternativa (E)//

3. cilindro 2 = 50% a mais do raio do cilindro 1

$A_{total1} = A_{lateral2}$

$A_{total1} = 2\pi r_1^2 + 2\pi r_1 . h$

$A_{lateral2} = 2\pi r_2 . h = 2\pi . 1,5 r_1 . h = 3\pi r_1 . h$

$V_1 = A_{b1} . h$	$3\pi r_1 . h = 2\pi r_1^2 + 2\pi r_1 . h$
$16\pi = \pi r_1^2 . h$	$\pi r_1 . h = 2\pi r_1^2$
$r_1^2 . h = 16$	$h = \frac{2\pi r_1^2}{\pi r_1}$
$r_1^2 . 2r_1 = 16$
$2r_1^3 = 16$	$h = 2r_1$
$r_1^3 = 8$	$h = 2 . 2$
$r_1 = 2$	$h = 4$ alternativa (D)

4. cilindro reto → $h = 4cm$

$V = \pi r^2 . h$

1º → $V = \pi (r+12)^2 . 4$

2º → $V = \pi r^2 . (4+12)$

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

$= \pi (r^2 + 24r + 144) . 4 = \pi r^2 . 16$

$= 4r^2 + 96r + 576 = 16r^2$

$= -12r^2 + 96r + 576 = 0$

$= -r^2 + 8r + 48 \longrightarrow r^2 - 8r - 48$

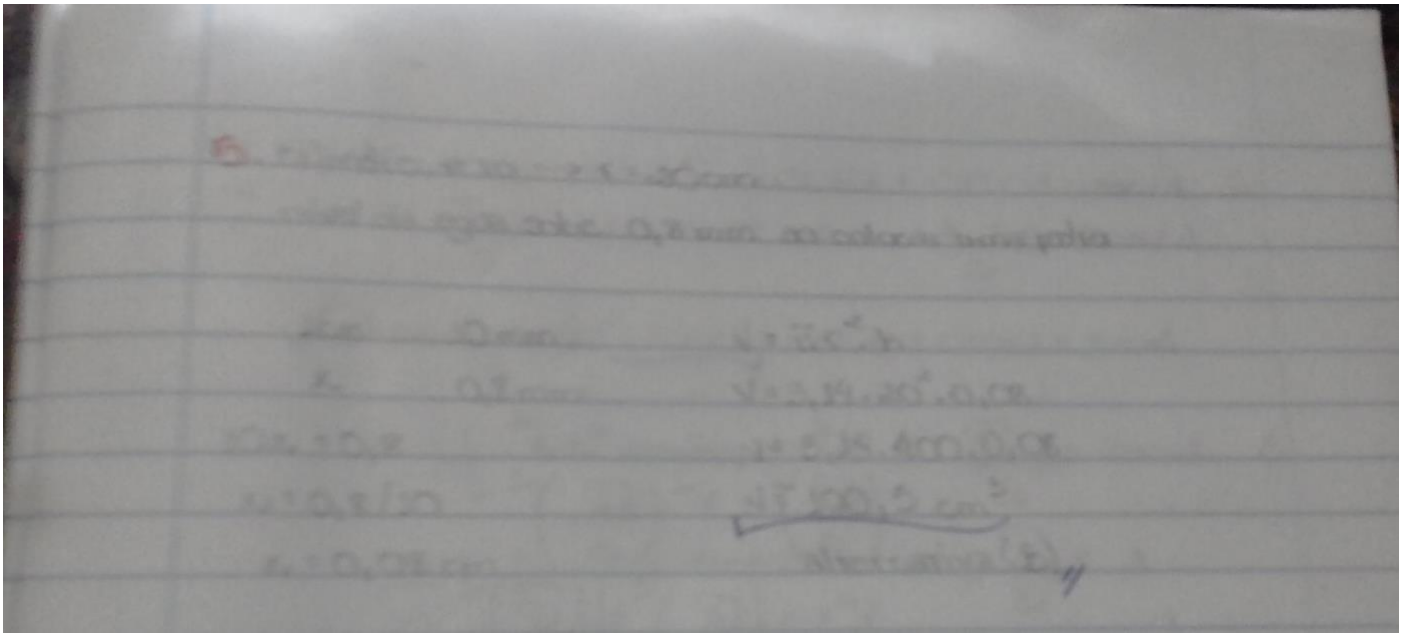
$\Delta = 64 - 4 . 1 . -48$

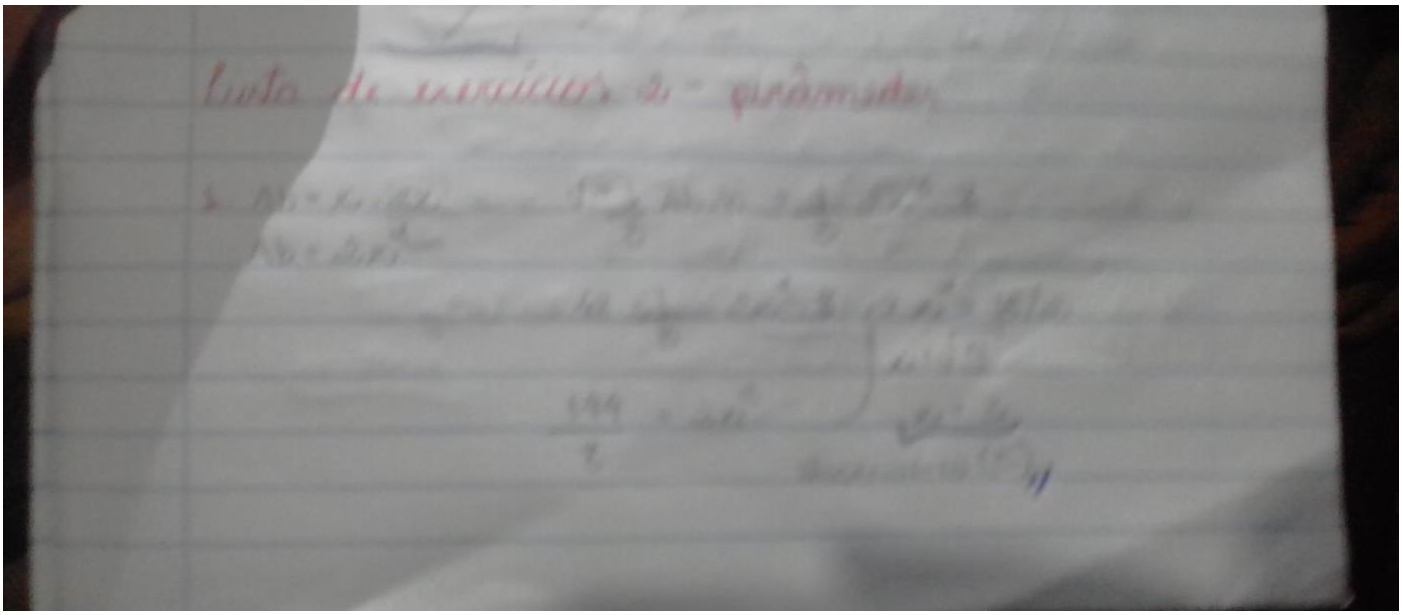
$\Delta = 256$

$x = \frac{-(-8) \pm \sqrt{256}}{2 . 1}$

$x' = \frac{8+16}{2} = 12 \rightarrow r = 12$ alternativa (A)

$x'' = \frac{8-16}{2} = -4$ não convém




Lista de exercícios de - pirâmides

2. $A_{base} = 80 \cdot 80 = 6400$ [illegible]

$A_{lateral} = \frac{4 \cdot L \cdot A}{2} = 2 \cdot 80 \cdot 50 = 8000$ [illegible]

$A_{total} = 6400 + 8000 = 14400$ alternativa [illegible]

3. $h_{lateral} = \frac{l\sqrt{3}}{2}$ $A^2 = h_{pirâmide}^2 + a^2$

$A = \frac{\sqrt{6}}{2}$ $\left(\frac{\sqrt{6}}{2}\right)^2 = h^2 + \left(\frac{\sqrt{2}}{2}\right)^2$

$h^2 = \left(\frac{\sqrt{2}}{2}\right)^2 + \left(\frac{\sqrt{2}}{2}\right)^2$

$h = 1$ alternativa (C)

5. $A_{base} = 6 \cdot \left(\frac{l^2\sqrt{3}}{4}\right) = 6 \cdot \frac{4^2\sqrt{3}}{4} = 24\sqrt{3}$

$V = \frac{1}{3} \cdot 24\sqrt{3} \cdot 6\sqrt{3} = 8 \cdot 6 \cdot 3 = 144 \, cm^3$

alternativa [illegible]

4. $A_{base} = 6 \cdot \left(\frac{l^2\sqrt{3}}{4}\right) = 6 \cdot \frac{a^2\sqrt{3}}{4} = \frac{3a^2\sqrt{3}}{2}$

$V = \frac{1}{3} \cdot \left(\frac{3a^2\sqrt{3}}{2}\right) \cdot h\sqrt{3} = \frac{a^2\sqrt{3}}{2} \cdot h\sqrt{3} = \frac{3a^2h}{2}$

alternativa (A)

6. $A_{base} = 6 \cdot \left(\frac{l^2\sqrt{3}}{4}\right) = 6\left(\frac{2}{2}\right)^2 \frac{\sqrt{3}}{4} = \frac{3\sqrt{3}}{2}$

$V = \frac{1}{3} \cdot \frac{3\sqrt{3}}{2} \cdot 8 = 4\sqrt{3}$ alternativa (A)

7 [illegible]

[illegible]

[illegible] $4\sqrt{2}$

[illegible]

[illegible] alternativa (A)//

[illegible] 9

8 $A_{total} = 4\left(\frac{L^2\sqrt{3}}{4}\right)$

$6\sqrt{3} = 4L^2\frac{\sqrt{3}}{4}$

$L^2 = 6$

$L = \sqrt{6}$

$h = L\frac{\sqrt{6}}{3}$

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

$h = 2$ alternativa (A)//