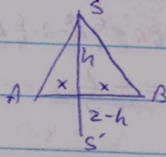
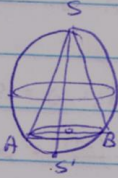


320  
6



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$$h(2-h) = x^2$$

$$x = \sqrt{2h-h^2}$$

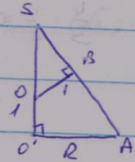
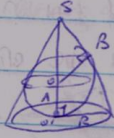
$$V = \frac{1}{3} x^2 h = \frac{1}{3} (2h-h^2) h = \frac{1}{3} (2h^2 - h^3) \rightarrow V' = \frac{4h - 3h^2}{3} = 0$$

$$h=0, h=\frac{4}{3}$$

$$V_{\text{min}} = \frac{1}{3} \cdot \frac{8}{9} \cdot \frac{4}{3} = \frac{32}{81}$$

$$V_{\text{max}} = \frac{2}{3} \pi \cdot 1^2$$

$$\frac{V_{\text{min}}}{V_{\text{max}}} = \frac{\frac{32}{81}}{\frac{2}{3}} = \frac{16}{27}$$



$$\frac{OB}{OA} = \frac{SB}{SO'}$$

$$\frac{1}{R} = \frac{\sqrt{(h-1)^2 - 1}}{h}$$

$$h = R\sqrt{h^2 - 2h} \rightarrow R = \frac{h}{\sqrt{h^2 - 2h}}$$

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So = h (m)

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

$$V' = \frac{1}{3} \pi \frac{2h(h-2) - h^2}{(h-2)^2} = \frac{\pi}{3} \frac{h^2 - 4h}{(h-2)^2} \rightarrow h=4 \rightarrow R=\sqrt{2}$$

$$\frac{V_{\text{min}}}{V_{\text{max}}} = \frac{\frac{8}{3}}{\frac{4}{3}} = 2$$

$$\frac{\alpha}{2\pi} = \frac{2\pi R}{2\pi l} = \frac{\sqrt{2}}{\sqrt{R^2 + h^2}} = \frac{\sqrt{2}}{\sqrt{18}} = \frac{1}{3}$$

$$\alpha = \frac{2\pi}{3} = 120^\circ$$

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