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1. $V = (2k)^3 = 8k^3$; T.A. $= 6(2k)^2 = 24k^2$ 2. $135 = \frac{1}{3}Bh = \frac{1}{3} \cdot 9 \cdot h$; $h = 45$ cm

3. $V = \frac{1}{3}\pi \cdot 8^2 \cdot 6 = 128\pi$

4. $l = \sqrt{6^2 + 8^2} = 10$; L.A. $= \pi \cdot 8 \cdot 10 = 80\pi$; T.A. $= 80\pi + \pi \cdot 8^2 = 144\pi$

5. $p = 5 + 12 + 13 = 30$; T.A. $= 30 \cdot 20 + 2\left(\frac{1}{2} \cdot 5 \cdot 12\right) = 660$

6. $\frac{1}{2} \cdot 5 \cdot 12 \cdot 20 = 600$ 7. L.A. $= 2\pi \cdot 6 \cdot 4 = 48\pi$; 48π cm^2

8. $V = \pi \cdot 6^2 \cdot 4 = 144\pi$; 144π cm^3

9. $\frac{1}{2} \cdot 24l = 60$; $l = 5$; $h = \sqrt{5^2 - 3^2} = 4$; $V = \frac{1}{3} \cdot 6^2 \cdot 4 = 48$; 48 m^3

10. $A = 4\pi \cdot 6^2 = 144\pi$; 144π cm^2; $V = \frac{4}{3}\pi \cdot 6^3 = 288\pi$; 288π cm^3 11. No; $\frac{12}{18} \neq$

12. scale factor $= 6 : 18 = 1 : 3$; ratio of areas $= 1^2 : 3^2 = 1 : 9$; let $a =$ total area of smaller pyramid; $\frac{a}{648} = \frac{1}{9}$; $9a = 648$; $a = 72$

13. $\frac{1000}{64} = \frac{125}{8} = \frac{5^3}{2^3}$, so scale factor $= 5 : 2$; ratio of lateral areas $= 5^2 : 2^2 = 25 :$

14. ratio of volumes $= \frac{1}{3}\pi \cdot 3^2 \cdot 4 : \pi \cdot 3^2 \cdot 4 = \frac{1}{3} : 1$ or $1 : 3$; $l = \sqrt{3^2 + 4^2} = 5$; ratio of lateral areas $= \pi \cdot 3 \cdot 5 : 2\pi \cdot 3 \cdot 4 = 15 : 24$ or $5 : 8$

15. $4\pi r^2 = 9\pi$; $r^2 = \frac{9}{4}$; $r = \frac{3}{2}$; $V = \frac{4}{3}\pi\left(\frac{3}{2}\right)^3 = \frac{9\pi}{2}$

16. $2\pi \cdot 7^2 + 2\pi \cdot 7h = 168\pi$; $98\pi + 14\pi \cdot h = 168\pi$; $14\pi \cdot h = 70\pi$; $h = 5$; 5 cm

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1. A. $V = \frac{1}{3}\pi r^2 \cdot 15 = 320\pi$; $r^2 = 64$; $r = 8$; T.A. $= \pi \cdot 8 \cdot \sqrt{8^2 + 15^2} + \pi \cdot 8^2 = 136\pi + 64\pi = 200\pi$

2. C. $6^2 : (9\sqrt{3})^2 = 36 : 243 = 4 : 27$

3. E. $V = \frac{4}{3}\pi r^3 = 288\pi$; $r^3 = 216$; $r = 6$; $d = 2r = 12$

4. D. $A = \frac{1}{2} \cdot 2\sqrt{3} \cdot (2 + 4) = 6\sqrt{3}$

5. B. $A = (y\sqrt{2})^2 + \frac{1}{2} \cdot y \cdot y = 2y^2 + \frac{1}{2}y^2 = \frac{5}{2}y^2$