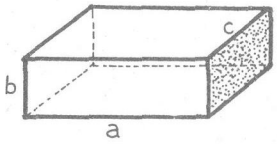
Geometric Formulas 2: Volumes of Solids

RECTANGULAR PARALLELEPIPED OF LENGTH a HEIGHT b, WIDTH c.



VOLUME $= a \cdot b \cdot c$

SURFACE AREA $= 2 \cdot (ab + ac + bc)$

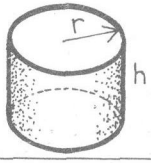
LENGTH OF DIAGONAL $= \sqrt{a^2 + b^2 + c^2}$

SPHERE OF RADIUS r

VOLUME $= \frac{4}{3}\pi r^3$

SURFACE AREA $= 4\pi r^2$

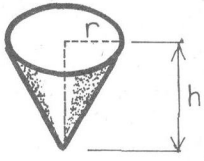
RIGHT CIRCULAR CYLINDER OF RADIUS r AND HEIGHT h



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

LATERAL SURFACE AREA $= 2\pi r \cdot h$

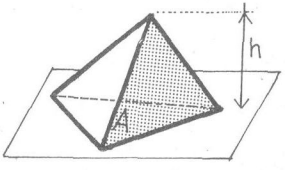
RIGHT CIRCULAR CONE OF RADIUS r AND HEIGHT h



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

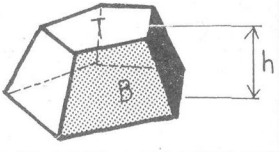
LATERAL SURFACE AREA $= \pi r \sqrt{r^2 + h^2}$

PYRAMID OF BASE AREA A AND HEIGHT h



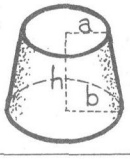
VOLUME $= \frac{1}{3} A \cdot h$

FRUSTUM OF PYRAMID OF BASE AREA B, HEIGHT h AND TOP AREA T



VOLUME $= \frac{1}{3} h \left(B + \sqrt{B \cdot T} + T \right)$

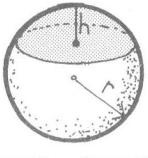
FRUSTUM OF RIGHT CIRCULAR CONE WITH RADIUSES a AND b, HEIGHT h



VOLUME $= \frac{1}{3}\pi \cdot h \left(a^2 + ab + b^2 \right)$

LATERAL SURFACE AREA $= \pi (a+b) \sqrt{h^2 + (b-a)^2}$

SPHERICAL CAP OF RADIUS r AND HEIGHT h



VOLUME $= \frac{1}{3}\pi h^2 (3r - h)$

SURFACE AREA $= 2\pi r h$