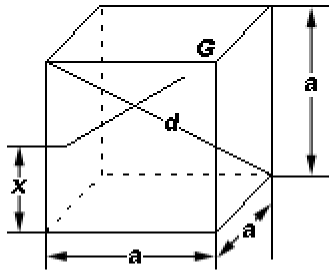
求積公式（立体の容積および諸数値）

Ｖ＝容積、Ｓ＝表面積、Ａｓ＝側面積、Ａｂ＝底面積、χ ＝底面より重心までの距離

正方体



$V = a^3$

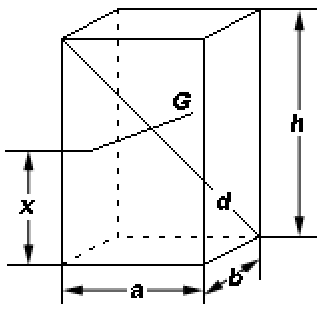
$S = 6a^2$

$A_s = 4d^2$

$x = \frac{a}{2}$

$d = \sqrt{3}a = 1.7321a$

長方体



$V = abh$

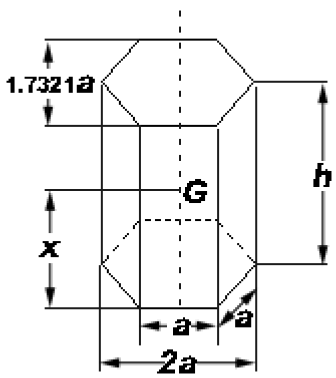
$S = 2\left(ab + ah + bh\right)$

$A_s = 2h\left(a + b\right)$

$x = \frac{h}{2}$

$d = \sqrt{a^2 + b^2 + h^2}$

正六角柱



$V = \frac{3\sqrt{3}}{2}a^2h = 2.598a^2h$

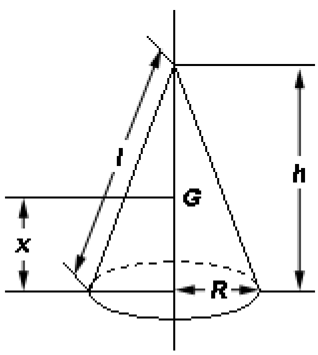
$S = 3\sqrt{3}a^2 + 6ah = 5.1963a^2 + 6ah$

$A_s = 6ah$

$x = \frac{h}{2}$

$d = \sqrt{h^2 + 4a^2}$

円　垂



$V = \frac{\pi R^2 h}{3}$

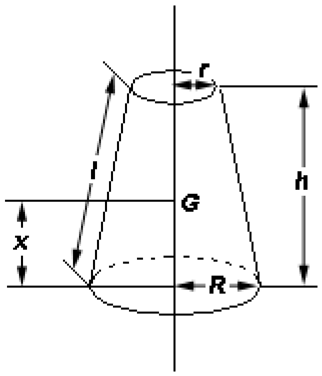
$A_s = \pi R l$

$l = \sqrt{R^2 + h^2}$

$x = \frac{h}{4}$

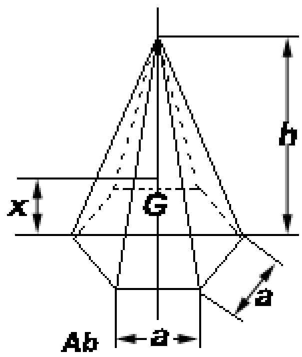
Ｖ＝容積、Ｓ＝表面積、Ａｓ＝側面積、Ａｂ＝底面積、χ＝底面より重心までの距離

截頭円垂



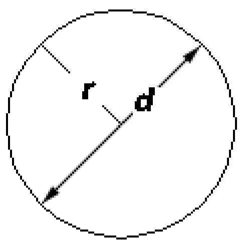
$$V = \frac{\pi h}{3}\left(R^2 + Rr + r^2\right)$$
$$= \frac{h}{4}\left(\pi a^2 + \frac{1}{3}\pi b^2\right)$$
$$A_s = \pi l a$$
$$a = R + r$$
$$b = R - r$$
$$l = \sqrt{b^2 + h^2}$$
$$x = \frac{h}{4}\frac{R^2 + 2Rr + 3r^2}{R^2 + Rr + r^2}$$

角　垂



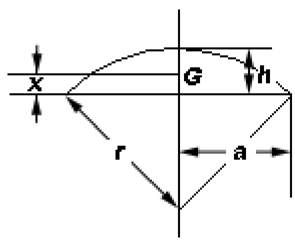
$$V = \frac{A_b h}{3}$$
$$A_b = \frac{3\sqrt{3}}{2}a^2 = 2.598a^2$$
$$x = \frac{h}{4}$$

球



$$V = \frac{4\pi r^3}{3} = 4.1888r^3 = \frac{\pi d^3}{6} = 0.5236d^3$$
$$S = 4\pi r^2 = \pi d^2$$
$$r = \sqrt[3]{\frac{3V}{4\pi}} = 0.62035\sqrt[3]{V}$$

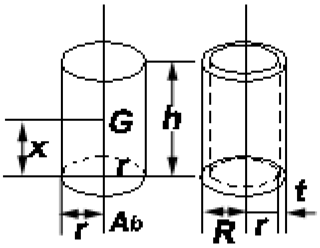
欠　球



$$V = \frac{\pi h}{6}\left(3a^2 + h^2\right) = \frac{\pi h^2}{3}(3r - h)$$
$$A_s = 2\pi V h = \pi\left(a^2 + h^2\right)$$
$$a^2 = h(2r - h)$$
$$x = \frac{3}{4}\frac{(2r - h)^2}{3r - h}$$

Ｖ＝容積、Ｓ＝表面積、Ａｓ＝側面積、Ａｂ＝底面積、χ＝底面より重心までの距離

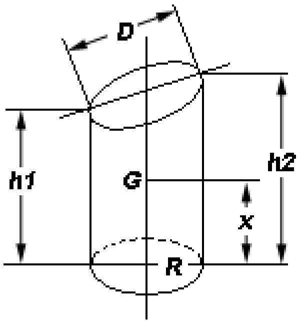
円柱・中空円柱



$$V = \pi r^2 h = A_s h$$
$$S = 2\pi r\left(r + h\right)$$
$$A_s = 2\pi r h$$
$$x = \frac{h}{2}$$

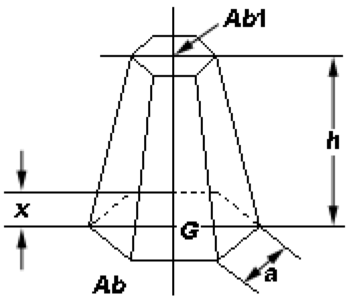
$$V = \pi h\left(R^2 - r^2\right) = \pi h t\left(2R - t\right) = \pi h t\left(2r + t\right)$$
$$x = \frac{h}{2}$$

截頭円柱



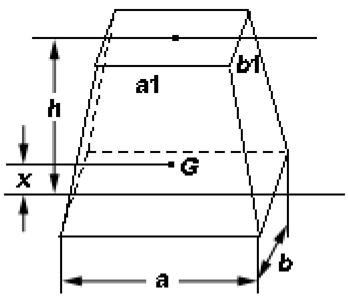
$$V = \pi R^2 \frac{h_1 + h_2}{2}$$
$$A_s = \pi R\left(h_1 + h_2\right)$$
$$D = \sqrt{4R^2 + \left(h_2 - h_1\right)^2}$$
$$x = \frac{h_1 - h_2}{2}$$

截頭角垂



$$V = \frac{\pi}{6}\left(A_b + A_{b1} + \sqrt{A_b A_{b1}}\right)$$
$$A_b = \frac{3\sqrt{3}}{2}a^2 = 2.598a^2$$
$$x = \frac{h}{4}\frac{A_b + 2\sqrt{A_b A_{b1}} + 3A_{b1}}{A_b + \sqrt{A_b A_{b1}} + A_b}$$

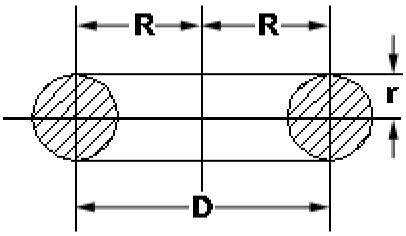
方光体



$$V = \frac{h}{6}\left\{\left(2a + a_1\right)b + \left(2a_1 + a\right)b_1\right\}$$
$$= \frac{h}{6}\left\{ab + \left(a + a_1\right)\left(b + b_1\right) + a_1 b_1\right\}$$
$$x = \frac{h}{2}\frac{ab + ab_1 + a_1 b + 3a_1 b_1}{2ab + ab_1 + a_1 b + 2a_1 b_1}$$

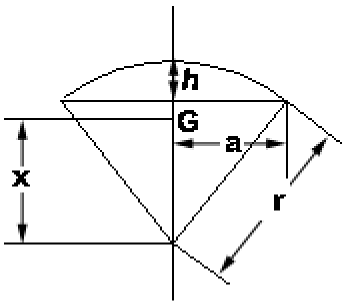
Ｖ＝容積、Ｓ＝表面積、Ａｓ＝側面積、Ａｂ＝底面積、χ＝底面より重心までの距離

円　環

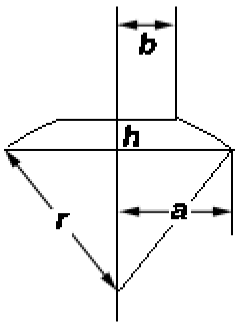


$$V = 2\pi^2 Rr^2 = 19.739Rr^2$$
$$= \frac{1}{4}\pi^2 Dd^2 = 2.4674Dd^2$$
$$S = 4\pi^2 Rr = 39.478Rr$$
$$= \pi^2 Dd = 9.8696Dd$$

球状の楔形



$$V = \frac{2\pi r^2 h}{3} = 2.0944r^2 h$$
$$S = \pi r\,(2h + a)$$
$$x = \frac{3}{8}\,(2r - h)$$



$$V = \frac{\pi h}{6}\left(3a^2 + 3b^2 + h^2\right)$$
$$A_s = 2\pi rh$$
$$r^2 = a^2 + \left(\frac{a^2 - b^2 - h^2}{2h}\right)^2$$