

CİSİMLERİN ALAN VE HACİM HESAPLARI

Hacim (V)

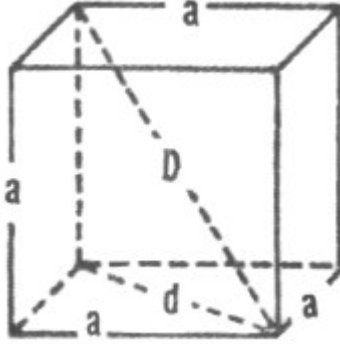
Şekil

Y= Yan alan

S= Alan

T= Taban alanı

$$V = a^3$$



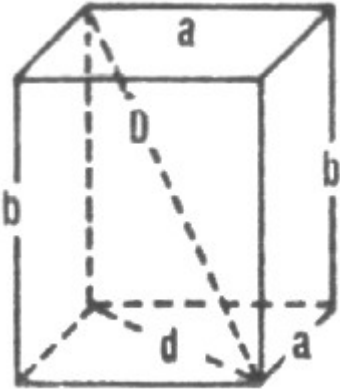
$$Y = 4a^2$$

$$S = 6a^2$$

$$T = a^2$$

KÜP

$$V = a^2 \cdot b$$



$$Y = 4 \cdot a \cdot b$$

$$T = a^2$$

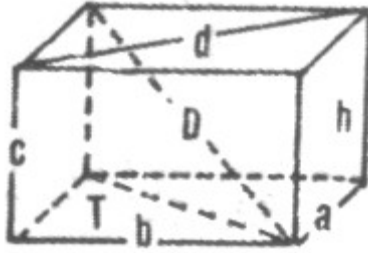
$$S = 2 \cdot a^2 + 4 \cdot a \cdot b$$

veya

$$S = 2a(a + 2b)$$

KARE PRİZMA

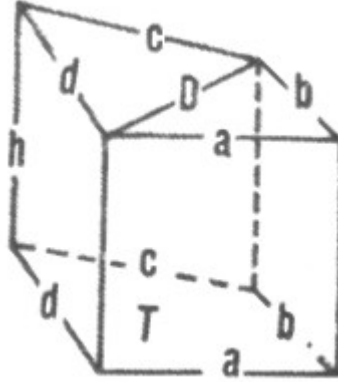
$$V = a \cdot b \cdot c$$



$$Y = 2 \cdot a \cdot c + 2 \cdot b \cdot c$$
$$S = 2 \cdot a \cdot b + 2 \cdot a \cdot c + 2 \cdot b \cdot c$$
$$T = a \cdot b \text{ veya } V/h$$

DİKDÖRTGEN PRİZMA

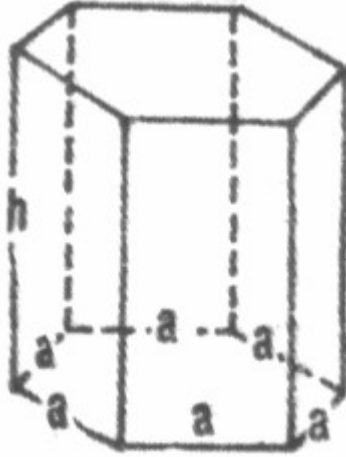
$$V = T \cdot h$$



$$Y = S - 2T$$
$$S = 2T + Y$$
$$T = (S - Y)/2 \text{ veya } V/h$$

PRİZMA

$$V = T.h$$

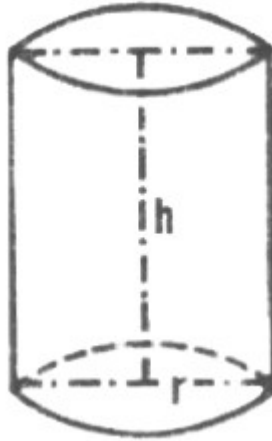


$$Y = 6.a.h$$
$$S = 2T + Y$$
$$T = 3.a^2.(\sqrt{3})/2$$

veya V/h

ALTIGEN PRİZMA

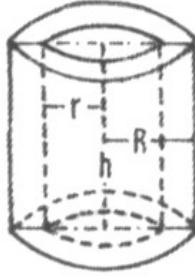
$$V = \pi.r^2.h$$



$$Y = 2.r.a.h$$
$$S = 2T + Y$$
$$T = \pi.r^2$$

SİLİNDİR

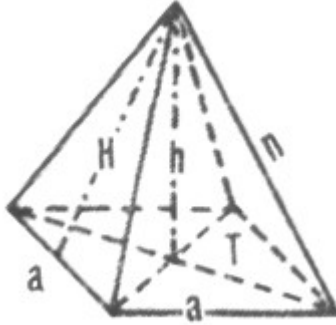
$$V = T.h$$



$$Y = 2.R.\pi.h + 2.r.\pi.h$$
$$S = Y + 2(R^2.\pi - r^2.\pi)$$
$$T = R^2.\pi - r^2.\pi$$

İÇİ BOŞ SİLİNDİR

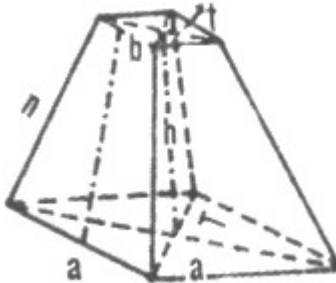
$$V = T.h/3$$



$$Y = 2 a.H$$
$$S = T + Y = a(a + 2H)$$
$$T = a^2 \text{ veya } 3.V/h$$

PİRAMİT (KARE)

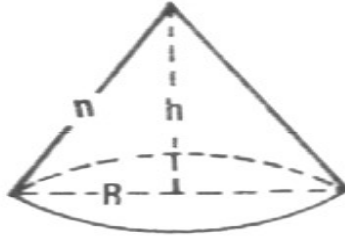
$$V = h/3(T + (\sqrt{T^t}) + t)$$



$$Y = 2(a+b).H$$
$$S = T + t + Y$$
$$T = a^2 \quad t = b^2$$

KESİK PİRAMİT

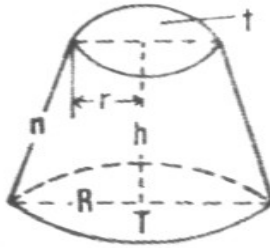
$$V = h.r^2.\pi/3$$



$$Y = r.\pi.n$$
$$T = \pi.r^2$$
$$S =$$
$$T + Y = r^2.\pi + r.\pi.n$$
$$\text{veya } r\pi(r+n)$$

KONİ

$$V = \pi.h/3(R^2 + R.r + r^2)$$



$$Y = \pi.n(R+r)$$
$$S = T + t + Y$$
$$S =$$
$$\pi[R^2 + r^2 + n(R+r)]$$
$$T = R^2.\pi \quad t = r^2.\pi$$

KESİK KONİ

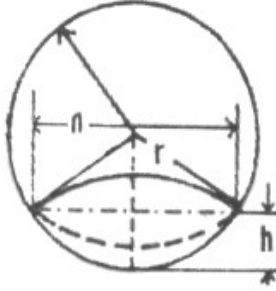
$$V = 4r^2\pi/3$$



$$S = 4.\pi.r^2$$
$$\text{veya}$$
$$d^2\pi$$

KÜRE

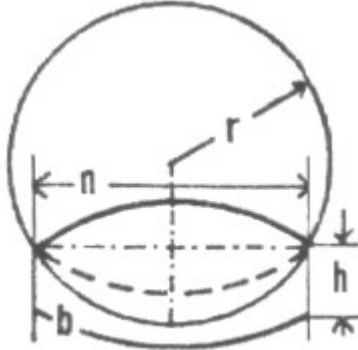
$$V = 2 \cdot \pi \cdot r^2 \cdot h / 3$$



$$S = (n/2)\pi \cdot r + 2 \cdot r \cdot \pi \cdot h$$

KÜRE DİLİMİ

$$V = \pi \cdot h^2 / 3 (3r - h)$$



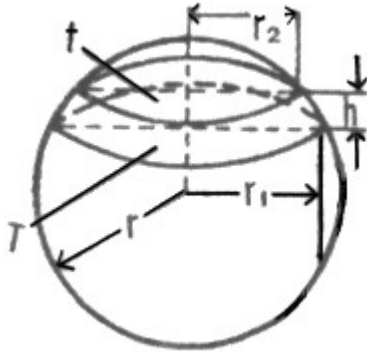
$$S = \pi \cdot h (4r - h)$$

veya

$$2\pi \cdot r \cdot h + (n/2)^2 \cdot \pi$$

KÜRE KESİTİ

$$V = \pi \cdot h / 6 (3r_1^2 + 3r_2^2 + h^2)$$



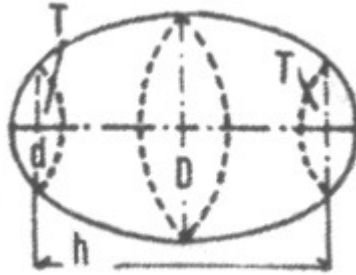
$$Y = 2 \cdot r \cdot \pi \cdot h$$

$$S = T + t + Y$$

$$T = r_1^2 \cdot \pi \quad t = r_2^2 \cdot \pi$$

KÜRE PARÇASI

$$V = \pi \cdot h / 3 (D^2/2 + d^2/4)$$



$$S = 2T + Y$$

FIÇI