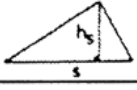
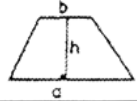
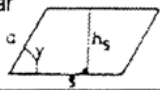
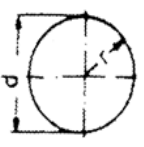
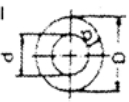


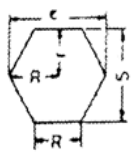
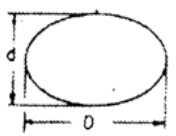



ALAN VE HACİMLER

	Alanlar F	Cisim	Hacim V, Toplam yüzey O, Yanal yüzey M, Çevre U, Taban alanı G
<p>Üçgen</p> 	$F = \frac{s \cdot h_s}{2}$	Kare sütun, dikdörtgen sütun prizma	$V = G \cdot h; \quad M = U \cdot h; \quad O = M + 2G$
<p>Trapez</p> 	$F = \frac{a + b}{2} \cdot h$	Silindir	$V = \frac{\Pi d^2}{4} h = 0,785 d^2 h = \Pi r^2 h$ $M = \Pi d h = 2 \Pi r h \quad O = \Pi d \left(\frac{d}{2} + h \right)$
<p>Paralelkenar</p> 	$F = s h_s = s \cdot h \sin \alpha$	Kesik Silindir	$V = \Pi r^2 h \quad M = 2 \Pi r h \quad h = \frac{1}{2} (h_1 + h_2)$
<p>Daire</p> 	$F = \frac{\Pi d^2}{4} = 0,785 d^2 = \Pi \cdot r^2$ $\text{Çevre } U = \Pi d \quad d = \sqrt{\frac{4F}{\Pi}} = 1,127 \sqrt{F}$	Koni	$V = \frac{1}{3} G h = \frac{\Pi d^2 h}{12} = 0,2618 d^2 h = \frac{\Pi}{3} r^2 h$ $M = \frac{\Pi d s}{2} = \frac{\Pi d}{4} \sqrt{d^2 + 4h^2} = 0,785 d \sqrt{d^2 + 4h^2}$ $M = \Pi s r = \Pi r \sqrt{r^2 + h^2} \quad S = \sqrt{r^2 + h^2}$
<p>Daire Halkası</p> 	$F = \frac{\Pi}{4} (D^2 - d^2) = \frac{\Pi}{2} (D + d) t$	Kesik Koni	$V = \frac{\Pi h}{12} (D^2 + Dd + d^2) = 0,2618 h (D^2 + Dd + d^2)$ $V = \frac{\Pi}{3} h (r_1^2 + r_2^2 + r_1 r_2) \quad M = \frac{\Pi (D + d) s}{2}$ $M = \Pi s (r_1 + r_2) \quad S = \sqrt{(r_1 - r_2)^2 + h^2}$
<p>Daire Dilimi</p> 	$F = \frac{\Pi \cdot r^2 \phi}{360} = 0,008727 r^2 \quad \phi = \frac{b \cdot r}{2}$ $\text{Yay Boyu } b = \frac{\Pi \cdot r \phi}{180} = 0,0175 r \phi$	Küre d küre çapı	$V = \frac{\Pi d^3}{6} = 0,5236 d^3 = \frac{4}{3} \Pi r^3$ $O = \Pi d^2 = 4 \Pi \cdot r^2$
<p>Daire Parçası</p> 	$F = \frac{r^2}{2} \cdot \frac{\Pi \phi}{180} = \sin \phi = \frac{h}{6s} (3h^2 + 4s^2)$ $\text{Kesen boyu } s = 2r \sin \frac{\phi}{2} = 2 \sqrt{h} (2r - h)$ $\text{Yay yüksekliği } h = r \cdot (1 - \cos \frac{\phi}{2}) = \frac{s}{2} \tan \frac{\phi}{4}$ $= r \cdot \sqrt{r^2 - \frac{s^2}{2}}$ $= 2r \sin^2 \frac{2\phi}{2}$	Küre parçası	$V = \frac{\Pi h}{6} (3a^2 + h^2) = \frac{\Pi h^2}{2} (3r - h)$ $M = 2 \Pi r h = \Pi (a^2 + h^2)$
<p>Düzgün Altıgen</p> 	$F = \frac{\sqrt{3}}{2} s^2 = 0,866 s^2; \quad F = \frac{\sqrt{3}}{2} R^2$ $= 2,598 R^2$ $\text{Köşe boyu } e = \frac{2s}{\sqrt{3}} \quad 1,1547s; \quad R = 0,577s$	Kesik küre parçası	$V = \frac{\Pi h}{6} (3a^2 + 3b^2 + h^2)$ $M = 2 \Pi r h \quad r = \text{Küre yarı çapı}$
<p>Sekizgen</p>	$F = 0,828 s^2 \quad \text{Köşeböyü } e = 1,0824 s$	Silindir Halkası	$V = \frac{\Pi}{4} D d^2 = 2,46 D d^2 \quad V = 2 \Pi^2 c r^2$ $O = \Pi^2 D \cdot d = 9,896 D d \quad O = 4 \Pi^2 c r$
<p>Elips</p> 	$F = \frac{\Pi}{4} (Dd) = 0,785 Dd$ $\text{Çevre } U \approx \frac{\Pi}{2} (D + d) \approx 1,5709 (D + d)$	Dairesel Fıçı D Gövdenin en geniş çapı d Tabanların çapı h Tabanlararası	$V \approx \frac{\Pi h}{12} (2D^2 + d^2) \approx 0,26 h (2D^2 + d^2)$
<p>Alanlar için guldin teoris</p> 	<p>Döner şeklin alanı [Döndürülen yay boyu] x [Yay ağırlık merkezinin çizdiği daire yayı uzunluğu]</p> $F = 2 \Pi r l$	Cisimler için Guldin teoris	<p>Döndürülen cismin hacmi [Döndürülen alan] x [Alan ağırlık merkezinin çizdiği daire yayı uzunluğu]</p> $V = 2 \Pi r F$