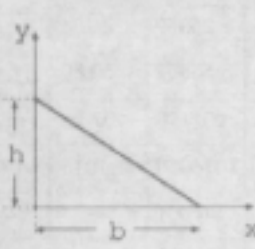
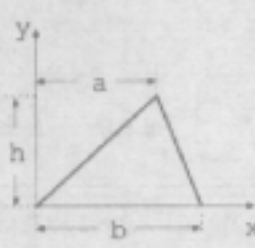
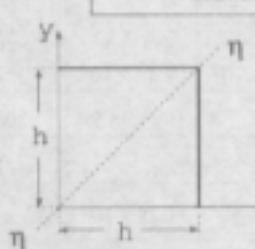
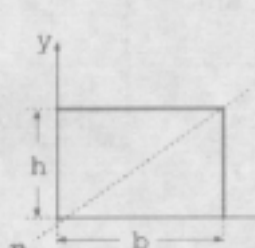
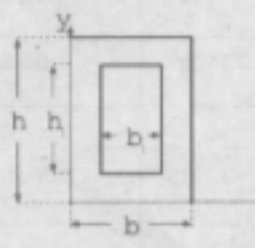
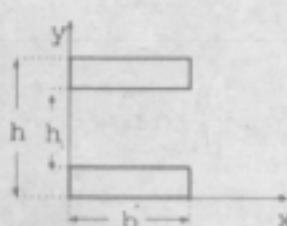
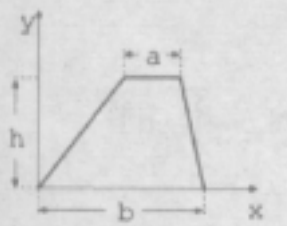
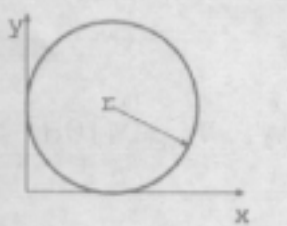
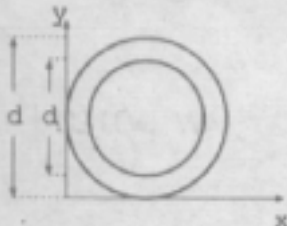
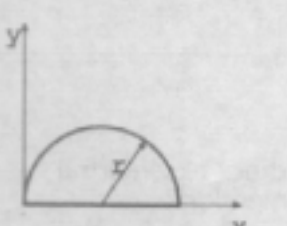
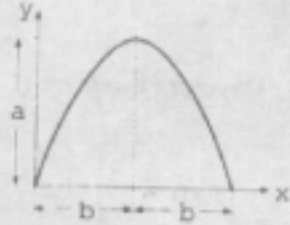
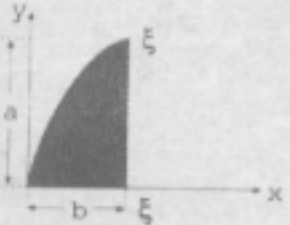

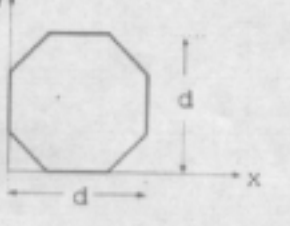
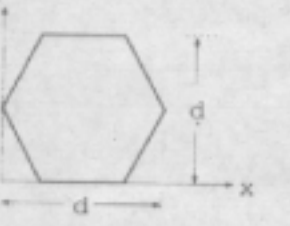


## DÜZLEMSEL GEOMETRİK ŞEKİLLERİN ÖZELLİKLERİ

Geometrik Şekil	Alan-geometrik merkez	Eylemsizlik momenti	Dayanım momenti
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Dik Üçgen</div> 	$A = \frac{bh}{2}$ $X_c = \frac{b}{3}$ $Y_c = \frac{h}{3}$	$I_{xc} = bh^3/36$ $I_{yc} = hb^3/36$ $I_x = bh^3/12$ $I_y = hb^3/12$	$W_{xc} = \frac{bh^2}{24}$ $W_{yc} = \frac{hb^2}{24}$
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Üçgen</div> 	$A = \frac{bh}{2}$ $X_c = \frac{a+b}{3}$ $Y_c = \frac{h}{3}$	$I_{yc} = hb^3/36$ $I_{yc} = \frac{bh}{36}(b^2 \cdot ab + a^3)$ $I_x = bh^3/12$ $I_y = \frac{bh}{12}(b^2 + ab + a^2)$	$W_{xc} = \frac{bh^2}{24}$
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Kare</div> 	$A = h^2$ $X_c = \frac{h}{2}$ $Y_c = \frac{h}{2}$	$I_x = I_{yc} = h^4/12$ $I_x = I_y = h^4/3$ $I_\eta = h^4/12$	$W_{xc} = W_{yc} = \frac{h^3}{6}$
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Dikdörtgen</div> 	$A = bh$ $X_c = \frac{b}{2}$ $Y_c = \frac{h}{2}$	$I_{xc} = bh^3/12$ $I_{yc} = hb^3/12$ $I_x = bh^3/3$ $I_y = hb^3/3$ $I_\eta = \frac{b^3 h^3}{(b^2 + h^2)}$	$W_{xc} = \frac{bh^2}{6}$ $W_{yc} = \frac{hb^2}{6}$
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Boşluklu dikdörtgen</div> 	$A = bh - b_1 h_1$ $X_c = \frac{b}{2}$ $Y_c = \frac{h}{2}$	$I_{xc} = \frac{(bh^3 - b_1 h_1^3)}{12}$ $I_{yc} = \frac{(hb^3 - h_1 b_1^3)}{12}$	$W_{xc} = \frac{1}{6} \left( \frac{bh^3 - b_1 h_1^3}{h} \right)$ $W_{yc} = \frac{1}{6} \left( \frac{hb^3 - h_1 b_1^3}{b} \right)$

Geometrik Şekil	Alan-geometrik merkez	Eylemsizlik momenti	Dayanım momenti
<p>Eşit Dikdörtgenler</p> 	$A = b(h-h_1)$ $X_c = \frac{b}{2}$ $Y_c = \frac{h}{2}$	$I_{yc} = \frac{b(h^3-h_1^3)}{12}$ $I_{yc} = \frac{b^3(h-h_1)}{12}$	$W_{xc} = \frac{b(h^3-h_1^3)}{6h}$ $W_{yc} = \frac{b^2(h-h_1)}{6}$
<p>Trapez</p> 	$A = \frac{h}{2}(a+b)$ $Y_c = \frac{h}{3} \left( \frac{2a+b}{a+b} \right)$	$I_{xc} = \frac{h^3(a^2+4ab+b^2)}{36(a+b)}$ $I_x = \frac{h^3(3a+b)}{12}$	$W_{xc} = \frac{I_{xc}}{h-Y_c}$
<p>Daire</p> 	$A = \pi r^2$ $X_c = r$ $Y_c = r$	$I_{xc} = I_{yc} = \frac{\pi r^4}{4}$ $I_x = I_y = \frac{5\pi r^4}{4}$	$W_{xc} = W_{yc} = \frac{\pi r^3}{4}$
<p>Boşluklu daire</p> 	$A = \frac{\pi(d^2-d_1^2)}{4}$ $X_c = \frac{d}{2}$ $Y_c = \frac{d}{2}$	$I_{xc} = I_{yc} = \frac{\pi(d^4-d_1^4)}{64}$	$W_{xc} = W_{yc} = \frac{\pi(d^4-d_1^4)}{32d}$
<p>Yarı Daire</p> 	$A = \frac{\pi r^2}{2}$ $X_c = r$ $Y_c = \frac{4r}{3\pi}$	$I_{xc} = \frac{r^4(9\pi^2-64)}{72\pi}$ $I_{yc} = \frac{\pi r^4}{8}$ $I_x = \frac{\pi r^4}{8}$ $I_y = \frac{5\pi r^4}{8}$	$W_{xc} = \frac{I_{xc}}{r-Y_c}$ $W_{yc} = \frac{\pi r^3}{8}$

<p style="text-align: center;"><b>Parabol</b></p> 	$A = \frac{4}{3}ab$ $X_c = b$ $Y_c = \frac{2}{5}a$	$I_{xc} = \frac{16}{175}a^3b$ $I_{yc} = \frac{4}{15}ab^3$ $I_x = \frac{32}{105}a^3b$	$W_{xc} = \frac{16}{105}a^2b$ $W_{yc} = \frac{4}{15}ab^2$
<p style="text-align: center;"><b>Yarıml Parabol</b></p> 	$A = \frac{2}{3}ab$ $X_c = \frac{5}{8}b$ $Y_c = \frac{2}{5}a$	$I_{xc} = \frac{8}{175}a^3b$ $I_{yc} = \frac{19}{480}ab^3$ $I_x = \frac{16}{105}a^3b$ $= \frac{2}{15}ab^3$	$W_{xc} = \frac{8}{105}a^2b$ $W_{yc} = \frac{19}{300}ab^2$
<p style="text-align: center;"><b>Yarıml parabol oyuklu dikdörtgen</b></p> 	$A = \frac{1}{3}ab$ $X_c = \frac{1}{4}b$ $Y_c = \frac{7}{10}a$	$I_{xc} = \frac{37}{2100}a^3b$ $I_{yc} = \frac{1}{80}ab^3$	$W_{xc} = \frac{37}{1470}a^2b$ $W_{yc} = \frac{1}{60}ab^2$
<p style="text-align: center;"><b>Sekizgen</b></p> 	$A = 0,8284d^2$ $X_c = Y_c = \frac{d}{2}$	$I_{xc} = I_{yc} = 0,055d^4$	$W_{xc} = W_{yc} = 0,110d^3$
<p style="text-align: center;"><b>Altıgen</b></p> 	$A = 0,886 d^2$ $X_c = Y_c = \frac{d}{2}$	$I_{xc} = I_{yc} = 0,06 d^4$	$W_{xc} = W_{yc} = 0,120 d^3$

$A$  = geometrik şekil alanı  
 $X_c, Y_c$  = alan geometrik merkezinin x ve y koordinatları  
 $I_{xc}, I_{yc}$  = alanın geometrik merkezden geçen ve x, y koordinat eksenlerine paralel olan eksenler etrafındaki eylemsizlik momentleri  
 $I_x, I_y$  = alanın x, y koordinat eksenleri etrafındaki eylemsizlik momentleri  
 $W_{xc}, W_{yc}$  = alanın geometrik merkezden geçen ve x, y koordinat eksenlerine paralel olan eksenler etrafındaki dayanım momentleri