TABLE D/3 PROPERTIES OF PLANE FIGURES

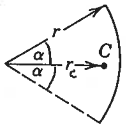
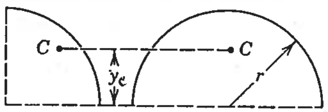
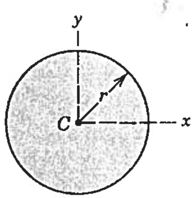
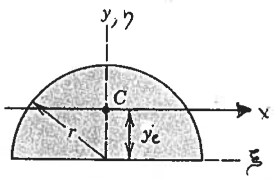
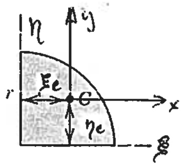
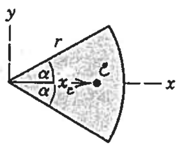
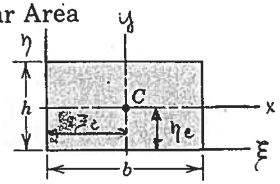
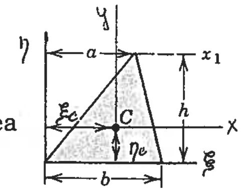
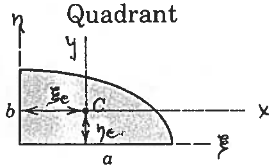
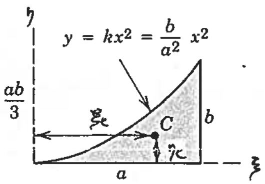
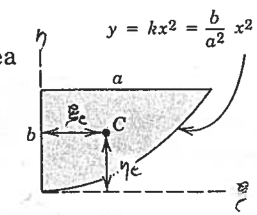
FIGURE	CENTROID	AREA MOMENTS OF INERTIA
Arc Segment  Kesknurk: 2α	$r_c = \frac{r \sin\alpha}{\alpha}$	—
Quarter and Semicircular Arcs 	$y_c = \frac{2r}{\pi}$	—
Circular Area 	—	$I_x = I_y = \frac{\pi r^4}{4} = \frac{\pi d^4}{64}$ $I_\varrho = \frac{\pi r^4}{2} = \frac{\pi d^4}{32} =$ $= I_x + I_y$
Semicircular Area 	$\eta_c = y_c = \frac{4r}{3\pi} =$ $= \frac{2d}{3\pi} =$ $= 0{,}212\,d$	$I_\xi = I_y = \frac{\pi r^4}{8} = \frac{\pi d^4}{128}$ $I_x = \left(\frac{\pi}{8} - \frac{8}{9\pi}\right) r^4 = 0{,}00686\,d^4$ $I_\varrho = \frac{\pi r^4}{4} = \frac{\pi d^4}{64} = I_\xi + I_y$
Quarter-Circular Area 	$\xi_c = \eta_c = \frac{4r}{3\pi} =$ $= \frac{2d}{3\pi} =$ $= 0{,}212\,d$	$I_\xi = I_\eta = \frac{\pi r^4}{16}$ $I_x = I_y = \left(\frac{\pi}{16} - \frac{4}{9\pi}\right) r^4$ $I_\varrho = \frac{\pi r^4}{8} = I_\xi + I_\eta$
Area of Circular Sector  Kesknurk: 2α	$x_c = \frac{2}{3}\frac{r \sin\alpha}{\alpha}$	$I_x = \frac{r^4}{4}(\alpha - \frac{1}{2}\sin 2\alpha)$ $I_y = \frac{r^4}{4}(\alpha + \frac{1}{2}\sin 2\alpha)$ $I_\varrho = \frac{1}{2} r^4 \alpha = I_x + I_y$

TABLE D/3 PROPERTIES OF PLANE FIGURES *Continued*

FIGURE	CENTROID	AREA MOMENTS OF INERTIA
Rectangular Area 	$\eta_c = h/2$ $\xi_c = b/2$	$I_\xi = \frac{bh^3}{3}$, $I_\eta = \frac{b^3 h}{3}$ $I_x = \frac{bh^3}{12}$, $I_y = \frac{b^3 h}{12}$ $I_\varrho = \frac{bh}{12}(b^2 + h^2) = I_x + I_y$
Triangular Area 	$\xi_c = \frac{a+b}{3}$ $\eta_c = \frac{h}{3}$	$I_\xi = \frac{bh^3}{12}$, $I_x = \frac{bh^3}{36}$ $I_{x_1} = \frac{bh^3}{4}$ Vt. ka järgmist lehekülge
Area of Elliptical Quadrant 	$\xi_c = \frac{4a}{3\pi}$ $\eta_c = \frac{4b}{3\pi}$	$I_\xi = \frac{\pi a b^3}{16}$, $I_x = \left(\frac{\pi}{16} - \frac{4}{9\pi}\right) a b^3$ $I_\eta = \frac{\pi a^3 b}{16}$, $I_y = \left(\frac{\pi}{16} - \frac{4}{9\pi}\right) a^3 b$ $I_\varrho = \frac{\pi a b}{16}(a^2 + b^2) = I_\xi + I_\eta$
Subparabolic Area  Area $A = \frac{ab}{3}$	$\xi_c = \frac{3a}{4}$ $\eta_c = \frac{3b}{10}$	$I_\xi = \frac{ab^3}{21}$ $I_\eta = \frac{a^3 b}{5}$ $I_\varrho = ab\left(\frac{a^2}{5} + \frac{b^2}{21}\right) = I_\xi + I_\eta$
Parabolic Area  Area $A = \frac{2ab}{3}$	$\xi_c = \frac{3a}{8}$ $\eta_c = \frac{3b}{5}$	$I_\xi = \frac{2ab^3}{7}$ $I_\eta = \frac{2a^3 b}{15}$ $I_\varrho = 2ab\left(\frac{a^2}{15} + \frac{b^2}{7}\right) = I_\xi + I_\eta$