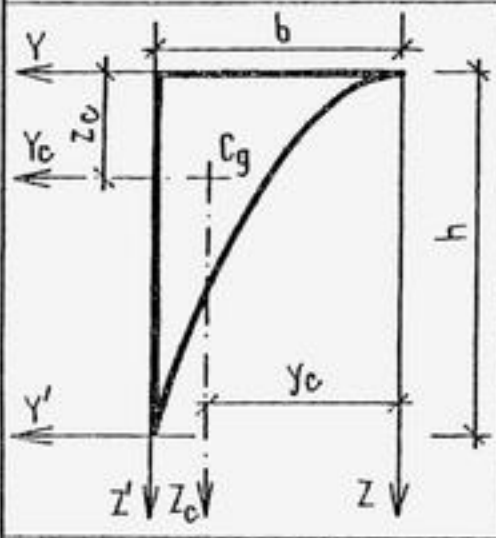
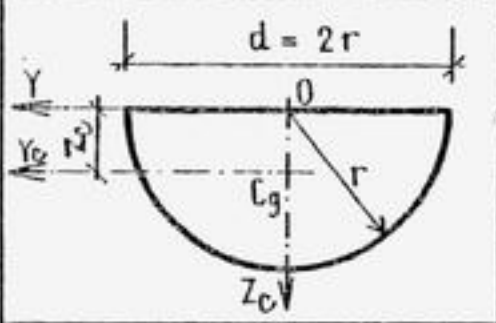
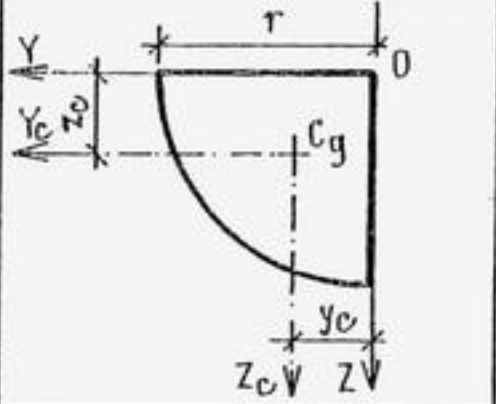
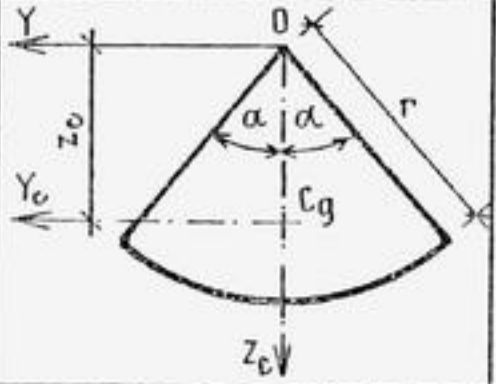
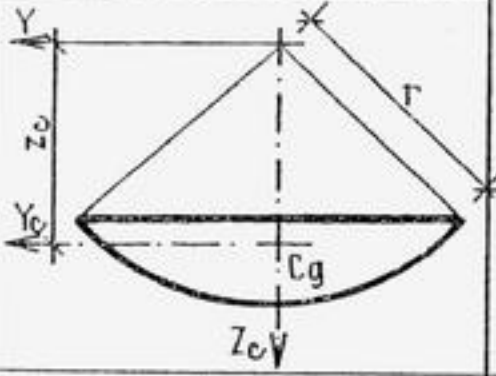
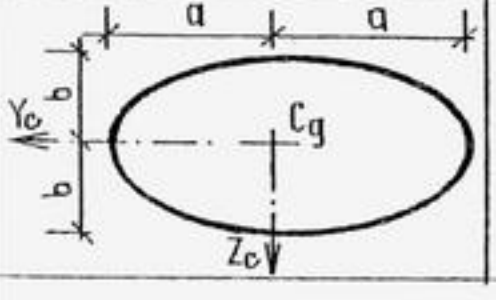


TVAR OBRAZCE	PLOCHA A	SOUŘADNICE TÉŽIŠTĚ $C_g(y_c, z_c)$	AXIÁLNÍ MOMENTY SETRVAČNOSTI I	DEVIČNÍ MOMENTY D
	$A = bh$	$y_c = \frac{b}{2}$ $z_c = \frac{h}{2}$	$I_{y_c} = \frac{bh^3}{12}, I_{z_c} = \frac{hb^3}{12}$ $I_y = \frac{bh^3}{3}, I_z = \frac{hb^3}{3}$	$D_{yz} = \frac{b^2h^2}{4}$ $D_{y_cz_c} = 0$
	$A = \frac{bh}{2}$	$z_c = \frac{h}{3}$	$I_{y_c} = \frac{bh^3}{36}$ $I_y = \frac{bh^3}{12}$ $I_{y'} = \frac{bh^3}{4}$	
	$A = \frac{bh}{2}$	$z_c = \frac{h}{3}$	$I_{y_c} = \frac{bh^3}{36}, I_{z_c} = \frac{hb^3}{48}$ $I_y = \frac{bh^3}{12}$	$D_{y_cz_c} = 0$
	$A = \frac{bh}{2}$	$y_c = \frac{b}{3}$ $z_c = \frac{h}{3}$	$I_{y_c} = \frac{bh^3}{36}, I_{z_c} = \frac{hb^3}{36}$ $I_y = \frac{bh^3}{12}, I_z = \frac{hb^3}{12}$ $I_{y'} = \frac{bh^3}{4}$	$D_{y_cz_c} = -\frac{b^2h^2}{72}$ $D_{yz} = \frac{b^2h^2}{24}$ $D_{y'z} = -\frac{b^2h^2}{8}$ ZNAMÉNKA!
	$A = \pi r^2 = \frac{\pi d^2}{4} \doteq$ $\doteq 3,1416 r^2 =$ $= 0,7854 d^2$		$I_{y_c} = I_{z_c} = \frac{\pi r^4}{4} = \frac{\pi d^4}{64} \doteq$ $\doteq 0,7854 r^4 =$ $= 0,0491 d^4$	$D_{y_cz_c} = 0$
	$A = \frac{2}{3} bh$	$y_c = \frac{3}{8} b$ $z_c = \frac{2}{5} h$	$I_{y_c} = \frac{8}{175} bh^3 \doteq 0,0457 bh^3$ $I_{z_c} = \frac{19}{480} hb^3 \doteq 0,0396 hb^3$ $I_y = \frac{16}{105} bh^3 \doteq 0,1524 bh^3$ $I_z = \frac{2}{15} hb^3 \doteq 0,1333 hb^3$ $I_{y'} = \frac{2}{7} bh^3 \doteq 0,2857 bh^3$ $I_{z'} = \frac{3}{10} hb^3 \doteq 0,3000 hb^3$	

TVAR OBRAZCE	PLOCHA A	SOUŘADNICE TĚŽIŠTĚ C _g (y _c , z _c)	AXIÁLNÍ MOMENTY SETRVAČNOSTI I	DEVIÁČNÍ MOMENTY D
	$A = \frac{bh}{3}$	$y_c = \frac{3}{4} b$ $z_c = \frac{3}{10} h$	$I_{Y_c} = \frac{37}{2100} bh^3 \approx 0,0176 bh^3$ $I_{Z_c} = \frac{1}{80} hb^3 \approx 0,0125 hb^3$ $I_Y = \frac{1}{24} bh^3 \approx 0,0417 bh^3$ $I_Z = \frac{1}{5} hb^3 \approx 0,2000 hb^3$ $I_{Y'} = \frac{19}{105} bh^3 \approx 0,1810 bh^3$ $I_{Z'} = \frac{1}{30} hb^3 \approx 0,0333 hb^3$	
	$A = \frac{\pi r^2}{2} = \frac{\pi d^2}{8} \approx 1,5708 r^2 = 0,3927 d^2$	$z_c = \frac{4r}{3\pi} = \frac{2d}{3\pi} \approx 0,4244 r$	$I_{Y_c} = \left(\frac{\pi}{8} - \frac{8}{9\pi}\right) r^4 \approx 0,1098 r^4$ $I_Z = I_Y = \frac{\pi r^4}{8} = \frac{\pi d^4}{128} \approx 0,3928 r^4 = 0,0246 d^4$	$D_{Y_c Z_c} = 0$
	$A = \frac{\pi r^2}{4} = \frac{\pi d^2}{16} \approx 0,7854 r^2 = 0,1964 d^2$	$y_c = z_c = \frac{4r}{3\pi} = \frac{2d}{3\pi} \approx 0,4244 r$	$I_{Y_c} = I_{Z_c} = \left(\frac{\pi}{16} - \frac{4}{9\pi}\right) r^4 \approx 0,0549 r^4$ $I_Y = I_Z = \frac{\pi r^4}{16} \approx 0,1963 r^4$	$D_{Y_c Z_c} = \left(\frac{1}{8} - \frac{4}{9\pi}\right) r^4 \approx -0,0165 r^4$ $D_{YZ} = \frac{r^4}{8}$ <p>ZNAMÉNKA!</p>
	$A = \widehat{\alpha} r^2 = \text{arc } \alpha r^2 = \frac{\alpha^\circ}{180^\circ} \pi r^2$	$z_c = \frac{2}{3} r \frac{\sin \alpha}{\alpha}$	$I_{Y_c} = r^4 \left(\frac{2\widehat{\alpha} + \sin 2\alpha}{8} - \frac{4 \sin^2 \alpha}{9\widehat{\alpha}} \right)$ $I_{Z_c} = \frac{r^4}{8} (2\widehat{\alpha} - \sin 2\alpha)$ $I_Y = \frac{r^4}{8} (2\widehat{\alpha} + \sin 2\alpha)$	$D_{Y_c Z_c} = 0$
	$A = r^2 \left(\widehat{\alpha} - \frac{\sin 2\alpha}{2} \right)$	$z_c = \frac{4r \sin^3 \alpha}{3(2\widehat{\alpha} - \sin 2\alpha)}$	$I_{Y_c} = r^4 \left(\frac{4\widehat{\alpha} - \sin 4\alpha}{16} - \frac{4 \sin^6 \alpha}{9 \widehat{\alpha} - \sin 2\alpha} \right)$ $I_{Z_c} = \frac{r^4}{48} (12\widehat{\alpha} - 8\sin 2\alpha + \sin 4\alpha)$ $I_Y = \frac{r^4}{16} (4\widehat{\alpha} - \sin 4\alpha)$	$D_{Y_c Z_c} = 0$
	$A = \pi ab$		$I_{Y_c} = \frac{\pi}{4} ab^3$ $I_{Z_c} = \frac{\pi}{4} ba^3$	$D_{Y_c Z_c} = 0$

GEOMETRICKÉ CHARAKTERISTIKY ROVINNÝCH OBRAZCŮ

TVAR OBRAZCE	PLOCHA A	SOUŘADNICE TĚŽIŠTĚ $C_g(y_c, z_c)$
	$A = bh$	$y_c = \frac{b}{2}$ $z_c = \frac{h}{2}$
	$A = \frac{bh}{2}$	$z_c = \frac{h}{3}$
	$A = \frac{bh}{2}$	$z_c = \frac{h}{3}$
	$A = \frac{bh}{2}$	$y_c = \frac{b}{3}$ $z_c = \frac{h}{3}$
	$A = \pi r^2 = \frac{\pi d^2}{4} =$ $= 3,1416 r^2 =$ $= 0,7854 d^2$	
	$A = \frac{2}{3} bh$	$y_c = \frac{3}{8} b$ $z_c = \frac{2}{5} h$

TVAR OBRAZCE	PLOCHA A	SOUŘADNICE TĚŽIŠTĚ $C_g(y_c, z_c)$
	$A = \frac{bh}{3}$	$y_c = \frac{3}{4} b$ $z_c = \frac{3}{10} h$
	$A = \frac{\pi r^2}{2} = \frac{\pi d^2}{8} =$ $= 1,5708 r^2 =$ $= 0,3927 d^2$	$z_c = \frac{4r}{3\pi} = \frac{2d}{3\pi} =$ $= 0,4244 r$
	$A = \frac{\pi r^2}{4} = \frac{\pi d^2}{16} =$ $= 0,7854 r^2 =$ $= 0,1964 d^2$	$y_c = z_c =$ $= \frac{4r}{3\pi} = \frac{2d}{3\pi} =$ $= 0,4244 r$
	$A = \alpha r^2 =$ $= 0,01746 \alpha r^2 =$ $= \frac{\alpha^\circ}{180^\circ} \pi r^2$	$z_c = \frac{2}{3} r \frac{\sin \alpha}{\alpha}$
	$A = r^2 \left(\frac{\sin 2\alpha}{2} - \alpha \right)$	$z_c = \frac{4r \sin^3 \alpha}{3(2\alpha - \sin^2 2\alpha)}$
	$A = \pi ab$	