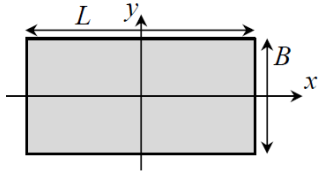


Formelark stabilitet hydrostatikk

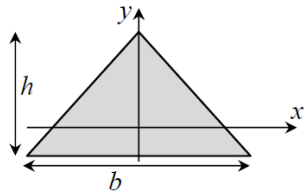
Tyngdepunktssatsen:

$$x_{\text{Gtot}} = \frac{\sum_{i=1}^n m_i \cdot x_{\text{Gi}}}{\sum_{i=1}^n m_i} = \frac{1.\text{ordensmoment}}{\int m dx}, \quad n = \text{antall masser}$$

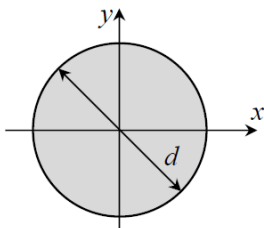
2. ordensmoment:



$$I_x = \frac{LB^3}{12}, \quad I_y = \frac{BL^3}{12}$$

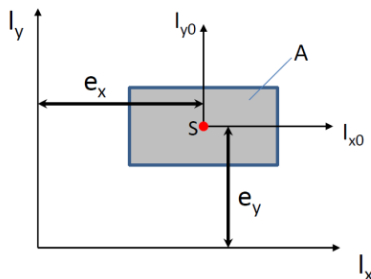


$$I_x = \frac{bh^3}{36}, \quad I_y = \frac{hb^3}{48}$$



$$I = \frac{\pi d^4}{64}$$

Steiners sats:



$$I_x = I_{x0} + A e_y^2, \quad I_y = I_{y0} + A e_x^2$$

Initialmetasenterradius:

$$\overline{BM} = \frac{I}{\nabla}$$

Initialmetasenterhøyde:

$$\overline{GM} = \overline{KB} + \overline{BM} - \overline{KG}$$

Tyngdepunktforskyvning:

$$\overline{GG_1} = \frac{\nabla a}{\Delta}$$

Slakk tank, virtuell tyngdepunktforskyvning:

$$\overline{GG_{1\text{virt}}} = \frac{i \rho_{\text{væske}}}{\Delta}$$

Små vinkler:

$$\tan \phi = \frac{\overline{GG_{1\text{horiskrengning}}}}{\overline{GM_t}}, \quad \tan \theta = \frac{\overline{GG_{1\text{horisrim}}}}{\overline{GM_l}}$$

Rettende arm (liten krengning):

$$\overline{GZ} = \overline{GM} \sin \phi$$

Rettende arm (stor krengning):

$$\overline{GZ} = \overline{KY} - \overline{KG} \sin \phi$$

Tettheter:

$$\rho_{\text{sjøvann}} = 1025 \text{ kg/m}^3, \quad \rho_{\text{ferskvann}} = 1000 \text{ kg/m}^3$$