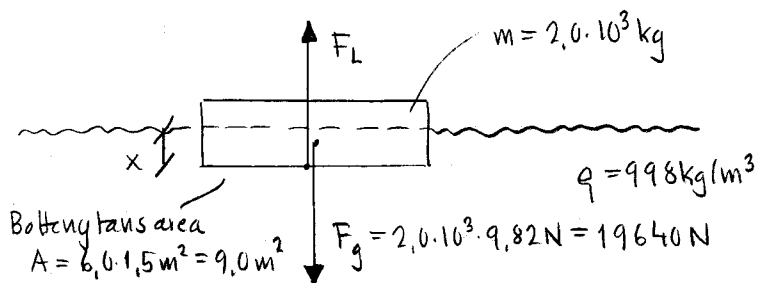


7.09

(a)



Sökt: Djupgåendet x

Lyftkraften

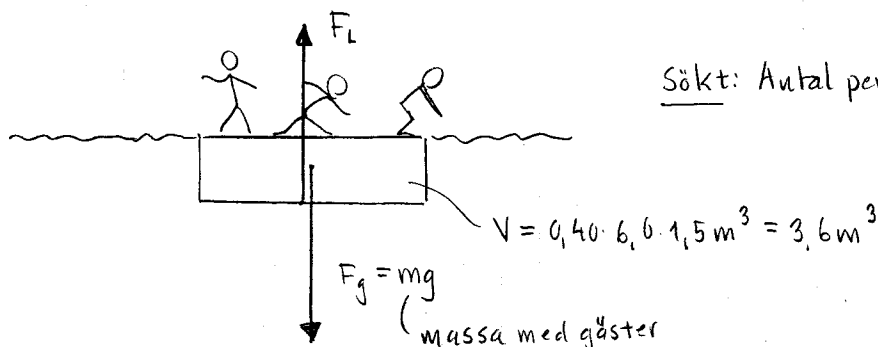
$$F_L = \rho V g = \rho \cdot x \cdot A g$$

$$\left[\frac{\text{kg}}{\text{kg/m}^3 \cdot \text{m}^2} = \text{m} \right] \text{ ok!}$$

Kraftjämvikt ger ($F_g = F_L$):

$$m g = \rho x A g \Rightarrow x = \frac{m}{\rho A} = \frac{2.0 \cdot 10^3}{998 \cdot 9.0} \text{ m} = 0.22 \text{ m}$$

(b)



Sökt: Antal personer (75 kg)

Kraftjämvikt ger ($F_g = F_L$)

$$m g = \rho V g$$

$$m = 998 \cdot 3.6 \text{ kg} = 3593 \text{ kg}$$

Flytbryggan kan alltså bära

$$\frac{3593 - 2000}{75} = 21.2 \text{ gäster}$$

Svar: (a) 0,22m (b) 21 gäster