

Kordamine p ja F_u

1) $h = 350 \text{ m}$
 $\rho = 1000 \frac{\text{kg}}{\text{m}^3}$

$g = 10 \text{ N/kg}$

$$p = \rho g h$$

$$p = 1000 \cdot 10 \cdot 350 =$$
$$= \underline{\underline{3500000 \text{ Pa}}}$$

$p = ?$

2) $p = 515 \text{ kPa} = 515000 \text{ Pa}$

$\rho = 1030 \frac{\text{kg}}{\text{m}^3}$

$g = 10 \text{ N/kg}$

$$p = \rho g h / : \rho g$$

⇓

$h = ?$

$$h = \frac{p}{\rho g}$$

$$h = \frac{515000}{1030 \cdot 10} = \underline{\underline{50 \text{ m}}}$$

$$3) h = 25 \text{ cm} = 0,25 \text{ m} \quad p = \rho g h \quad | : gh$$
$$p = 34 \text{ kPa} = 34000 \text{ Pa}$$
$$g = 10 \text{ N/kg} \quad \rho = \frac{p}{gh}$$

$$\rho = ? \quad \rho = \frac{34000}{10 \cdot 0,25} = \underline{\underline{13600 \frac{\text{kg}}{\text{m}^3}}}$$

(Erdöl)

$$4) V = 2,5 \text{ m}^3$$

$$\rho = 710 \frac{\text{kg}}{\text{m}^3}$$

$$g = 10 \text{ N/kg}$$

$$F_u = \rho g V$$

$$F_u = 710 \cdot 10 \cdot 2,5 =$$

$$F_u$$

$$= \underline{\underline{17750 \text{ N}}}$$

$$5) F_u = 309 \text{ N} \quad F_u = \rho g V \quad | : \rho g$$

$$\rho = 1030 \frac{\text{kg}}{\text{m}^3}$$

$$g = 10 \text{ N/kg}$$

$$V = \frac{F_u}{\rho g}$$

$$V = ?$$

$$V = \frac{309}{1030 \cdot 10} = \underline{\underline{0,03 \text{ m}^3}}$$

$$6) V = 500 \text{ dm}^3 = 0,5 \text{ m}^3$$

$$F_u = 6,75 \text{ kN} = 6750 \text{ N}$$

$$g = 10 \text{ N/kg}$$

$$F_u = \rho g V \quad | : g V$$

$$\rho = ?$$

$$\rho = \frac{F_u}{g V} \quad (\text{mesi})$$

$$\rho = 6750 : (10 \cdot 0,5) = 1350 \frac{\text{kg}}{\text{m}^3}$$

$$2) V = 15000 \text{ m}^3$$

$$\rho_v = 1000 \frac{\text{kg}}{\text{m}^3}$$

$$g = 10 \text{ N/kg}$$

Keha ujub linn

$$F_u \gg F_r$$

↑
ülest.
jõud

↑
raskus-
jõud

$$m = ?$$

$$F_u = \rho_v g V$$

$$F_r = m g$$

$$\cancel{m g} = \rho_v \cancel{g} V$$

⇓

$$m = \rho_v V$$

NB! Võib

lahendada ka
naga ül: ρ

$$\rho = \frac{m}{V} \Rightarrow$$

$$\Rightarrow m = \rho V$$

$$m = 1000 \cdot 15000 = 15000000 \text{ kg}$$