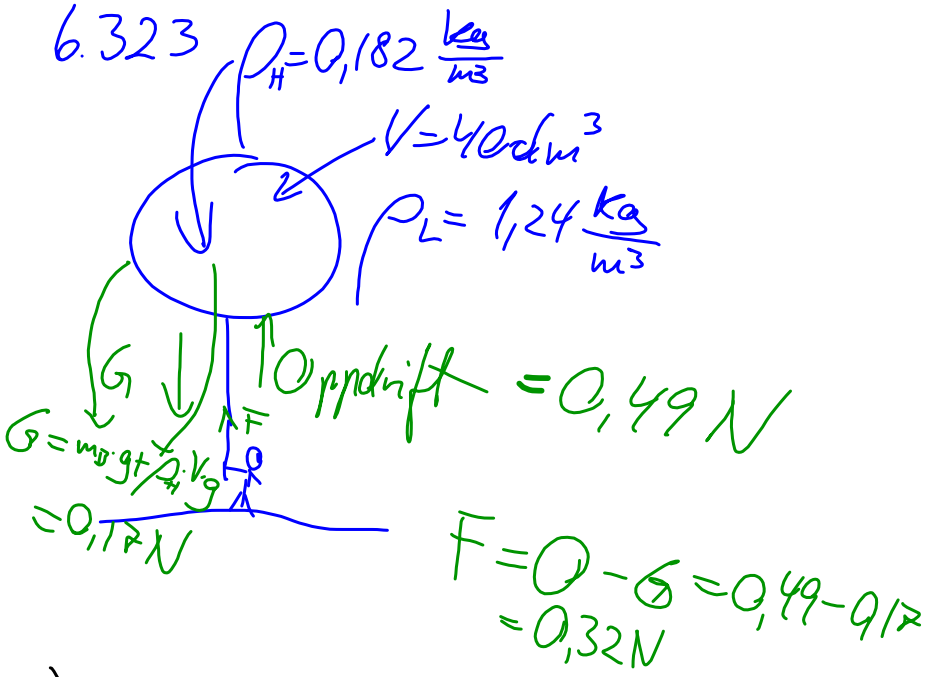
6.323



$F = O - G = 0{,}49 - 0{,}17$
$= 0{,}32\,N$

c) Anta at jenta har massen $m_j = 50\,kg$
Hvor mange ballonger kan hun holde for hun svever?

Tyngden av jenta

$T_j = m_j \cdot g = 50\,kg \cdot 9{,}81\,m/s^2$
$= 490{,}5\,[N]$

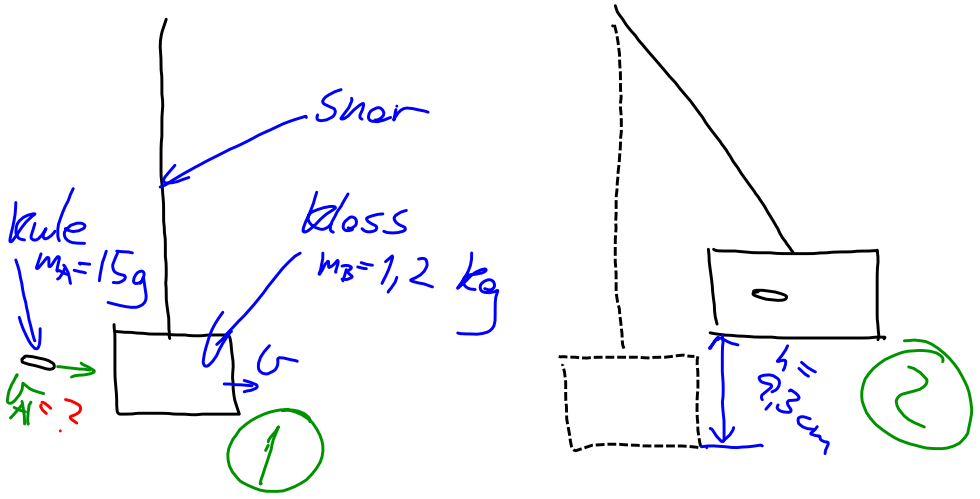
Hver ballong trekker $0{,}32\,[N]$ (oppover)
Antall ballonger X

$X \cdot 0{,}32\,[N] \geq T_j = 490{,}5\,[N]$

$X = \frac{490{,}5\,[N]}{0{,}32\,[N]} = 1532{,}8$

Jenta kan holde 1532 ballonger uten å sveve.

5.316



$E_{K1} + E_{P1} = E_{K2} + E_{P2}$

$E_K = \frac{1}{2} m v^2$

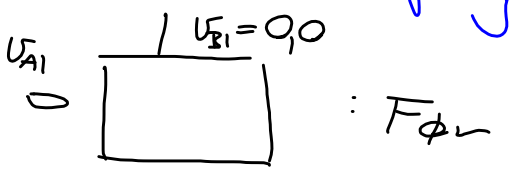
$E_P = mgh$

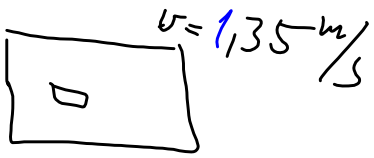
0,0 da $h = 0$ 0,0 da $v = 0$

$E_{K1} = E_{P2}$

$\frac{1}{2}(m_A + m_B)v^2 = mgh$ 9,3 cm

$v = \sqrt{2 \cdot g \cdot h} = \sqrt{2 \cdot g \cdot 0,093} = 1,35$ m/s





$m_A \cdot v_{A1} + m_B \cdot v_{B1} = (m_A + m_B) v$ (c)

$v_{A1} = \frac{(m_A + m_B) \cdot v}{m_A} = \frac{1,35 \cdot 1,2}{0,015} = 108$ m/s

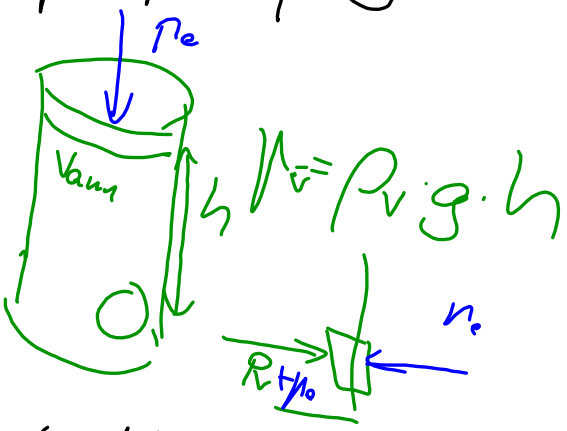
Kap 6

Massetetthet: $\rho = \frac{m}{V}$

Trykk: $p = \frac{F}{A}$

Hydrostatisk trykk

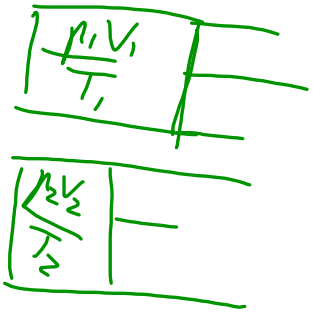
$p = p_0 + \rho g \cdot h$



Oppdrift

Tilstandslikning

$\frac{p_1 V_1}{T_1} = \frac{p_2 V_2}{T_2}$



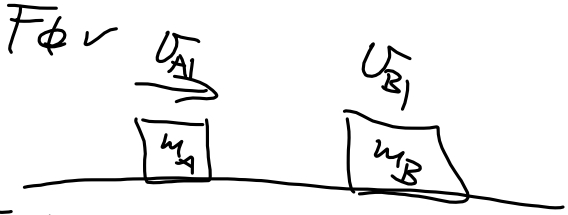
$\frac{pV}{T} = N \cdot k$

Kap 5

Bevegelsesmengde

$$p = m \cdot v$$

Før



$$m_A \cdot v_{A1} + m_B \cdot v_{B1} =$$

Etter

$$m_A \cdot v_{A2} + m_B \cdot v_{B2}$$

Elastisk støt $E_{K1} = E_{K2}$

Uelastisk støt $E_{K1} \neq E_{K2}$

$$E_{K1} = \frac{1}{2} m_A v_{A1}^2 + \frac{1}{2} m_B \cdot v_{B1}^2$$

Impuls

$$I = F \cdot t = \Delta p$$

$$m \cdot v_1 - m v_0$$