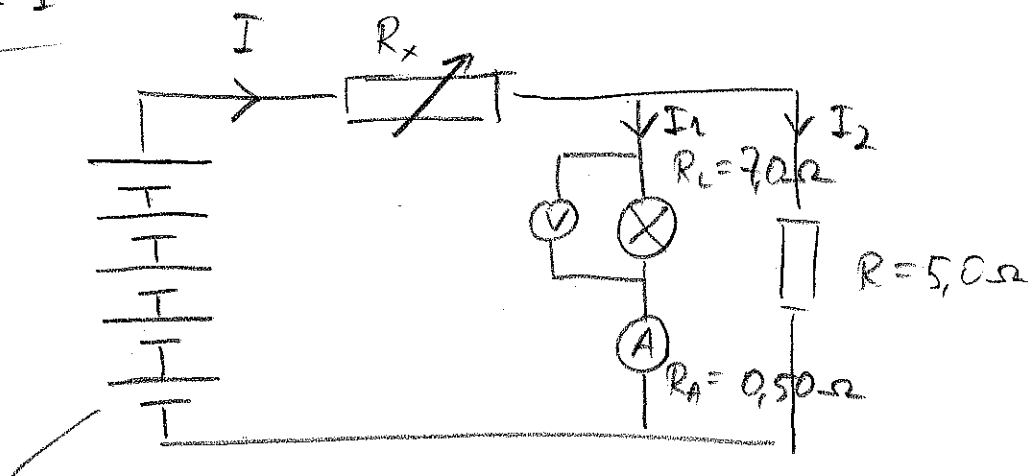


Fasit til eksamen februar 2012

Oppg. 1

a)



$$\mathcal{E} =$$

$$R_i = 0,20 \Omega$$

b) $I = 5,0 \text{ A}$

c) $R_{\text{par}} = 3,0 \Omega$

d) $U_p = 20 \text{ V}$

e) $R_x = 1,0 \Omega$

f) $I = 2,5 \text{ A}$

g) $U_L = 7,0 \text{ V}$

h) $P_L = 7,0 \text{ W}$

Oppg. 2

a) $d = 2,5 \cdot 10^{-6} \text{ m}$

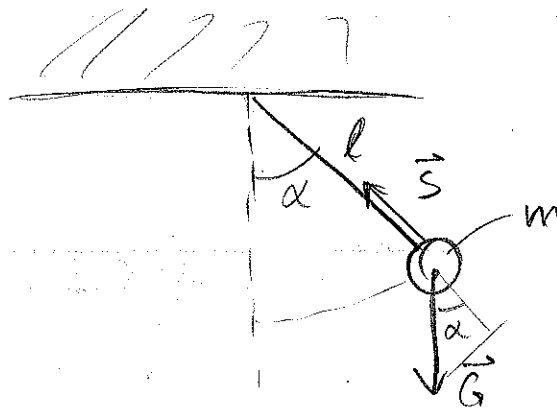
b) $\theta_1 = 15,1^\circ, \theta_2 = 31,3^\circ$

c) $n_{\max} = 3$

d) 68 cm

e) $\lambda = 490 \text{ nm}$

Oppg. 3



a)

b) $S = 9,8 \text{ N}$

$a = 8,5 \text{ m/s}^2$

Rebving: Langs sirkelbane

c) $v = 3,3 \text{ m/s}$

d) I B: $a_s = 7,3 \text{ m/s}^2$

$a_t = 4,9 \text{ m/s}^2$

$a_{\text{tot}} = 8,8 \text{ m/s}^2$

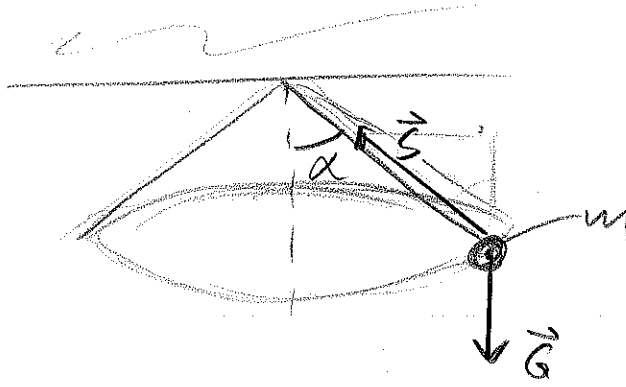
I G: $a_s = 9,8 \text{ m/s}^2$

$a_t = 0$

$a_{\text{tot}} = a_s$

e) I B: $S = 31,4 \text{ N}, \quad \text{I G: } S = 39,24 \text{ N}$

f)



g) $S = 39,2 \text{ N}$
 $a = 17 \text{ m/s}^2$
 $v = 5,0 \text{ m/s}$ } Rotering: Inn mot sentrum
 Rotering: Langs sirkelbane

Oppg. 4

a) $G_k = 58,9 \frac{\text{J}}{\text{K}}$

b) $I_{is} = 3,25 \cdot 10^5 \frac{\text{J}}{\text{kg}}$

c) $m_d = 24,7 \text{ g}$