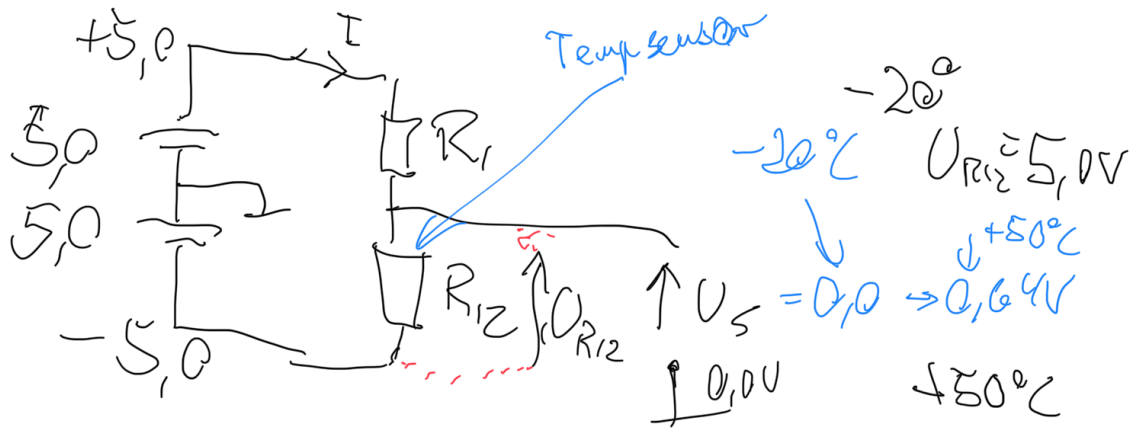


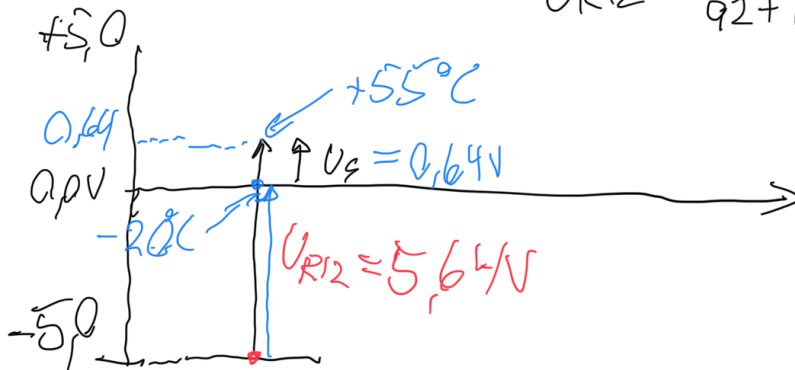
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 Subject: Nytt notat  
 Date: 28. januar 2021 11:49:16



$$I = \frac{10V}{R_1 + R_{12}}$$

$$U_{R_{12}} = I \cdot R_{12}$$

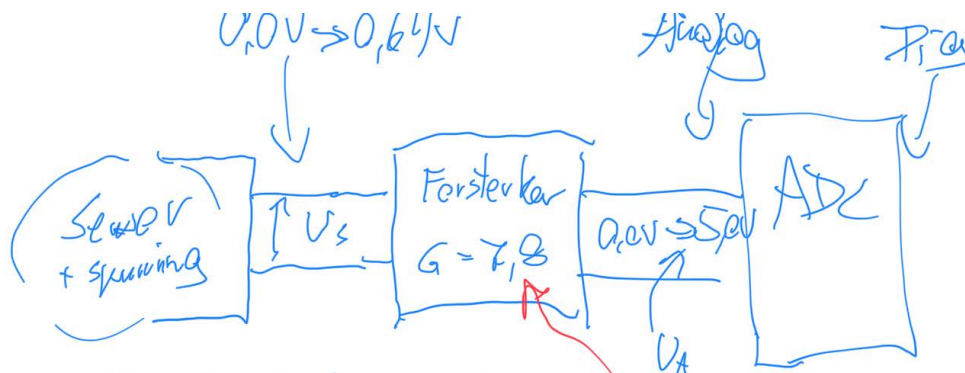
$$U_{R_{12}} = \frac{10 \cdot 119}{92 + 119} = \frac{1190}{211} = 5.64V$$



$$U_5 = U_{R_{12}} - 5.0V = 5.64 - 5.0 = 0.64V$$

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$$\begin{aligned}
 U_S &= 0,0\text{V} & U_A &= 0,0\text{V} \\
 U_S &= 0,64\text{V} & U_A &= 5,0\text{V}
 \end{aligned}$$

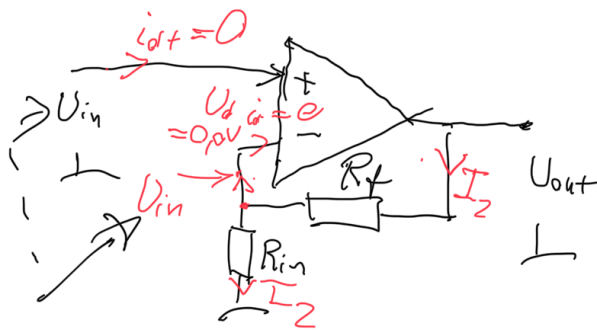
Howdan?

Forsterkar  
 Hvor stor skal forsterkningen være?

$$\begin{aligned}
 G \cdot U_S &= U_A \\
 G &= \frac{5,0}{0,64} = 7,8 \text{ ggr}
 \end{aligned}$$

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$$\frac{U_{out}}{U_{in}} = 7,8$$

Forsterkningen

$$I_2 = \frac{U_{out}}{R_f + R_{in}} \quad U_{in} = I_2 \cdot R_{in}$$

$$U_{in} = \frac{U_{out}}{R_f + R_{in}} \cdot R_{in}$$

$$(R_f + R_{in}) \cdot U_{in} = U_{out} \cdot R_{in}$$

$$\frac{R_f + R_{in}}{R_{in}} = \frac{U_{out}}{U_{in}} = \frac{R_{in} + R_f}{R_{in}} = \frac{R_{in}}{R_{in}} + \frac{R_f}{R_{in}} = 1 + \frac{R_f}{R_{in}}$$

$$1 + \frac{R_f}{R_{in}} = 7,8$$

$$\frac{R_f}{R_{in}} = 7,8 - 1,0 = 6,8$$

$$R_f = 6,8 \cdot R_{in}$$

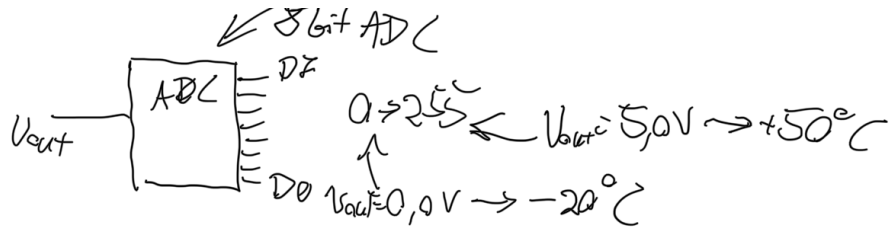
Velger  $R_{in} = 1,0 \text{ k}\Omega$

$$R_f = 6,8 \text{ k}\Omega$$

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D<sub>7</sub> D<sub>6</sub> ... D<sub>0</sub>  
00000000 → 0  
00000001 → 1  
00000010 → 2  
00000011 → 3  
⋮

11111111 → 255

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