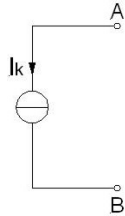


Lösungen

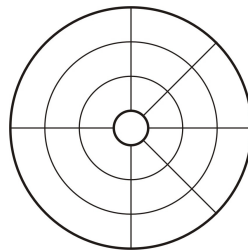
Aufgabe 1:

- a) $U_q = -24 \text{ V}$ $U_M = -1 \text{ V}$
 b) $I_5 = -0,49 \text{ A}$ $U_M = -12,57 \text{ V}$
 c) $R_{iE} = \infty$
 $I_k = 1 \text{ A}$



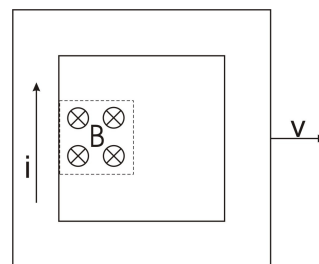
Aufgabe 2:

- a) Innenelektrode
 b) $U = 200 \text{ kV}$
 c) $W = 0,835 \text{ J/m}$
 d) $r_1 = 3,8 \text{ cm}$
 $r_2 = 1,95 \text{ cm}$



Aufgabe 3:

- a) $B_L = 0,5163 \text{ T}$
 b) 1. $i = 57,8 \text{ A}$



2. $F = 0,597 \text{ N}$

Aufgabe 4:

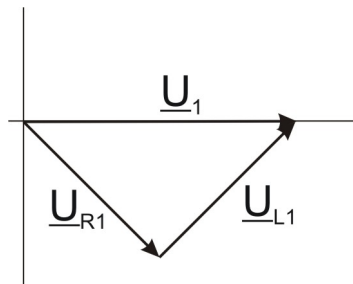
a) $R_{\Delta} = 12 \, \Omega$

b) $\underline{I}_1 = 81,65 \text{ A} \cdot e^{-j45^\circ}$

c) $\underline{I}_{R1} = 40,83 \text{ A} \cdot e^{-j45^\circ}$ $\underline{U}_{R1} = 163,3 \text{ V} \cdot e^{-j45^\circ}$

$\underline{I}_{R12} = 23,57 \text{ A} \cdot e^{-j15^\circ}$ $\underline{U}_{R12} = 282,8 \text{ V} \cdot e^{-j15^\circ}$

d) $\underline{U}_{L1} = 163,3 \text{ V} \cdot e^{+j45^\circ}$



e) $u_1(t) = 326,6 \text{ V} \cdot \sin(\omega t)$
 $u_{R1}(t) = 231 \text{ V} \cdot \sin(\omega t - 45^\circ)$
 $u_{R12}(t) = 400 \text{ V} \cdot \sin(\omega t - 15^\circ)$

