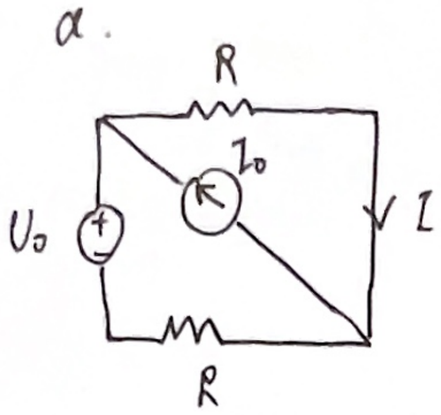
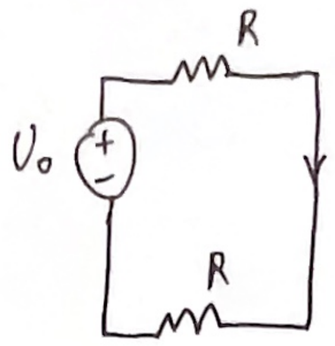
Aufgabe 1

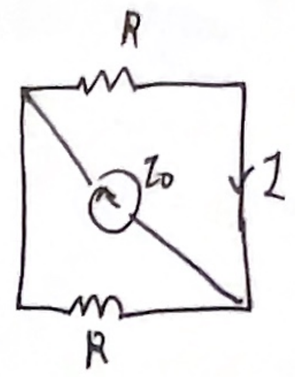
$U_0 = 12V$, $I_0 = 50mA$, $R = 10\Omega$, $\neq 1$

a.





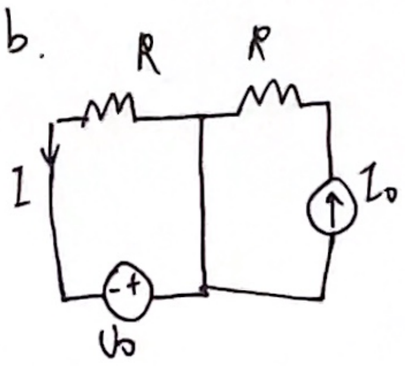
$I_1 = \frac{U_0}{2R} = \frac{12V}{20\Omega} = 0.6A$

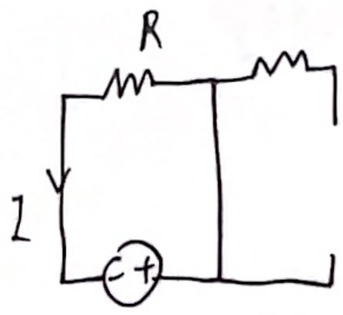


$I_2 = \frac{1}{2} I_0 = 25mA$

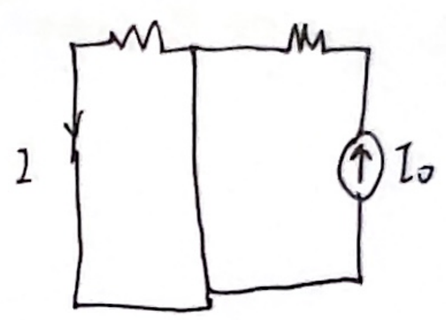
$I = I_1 + I_2 = 625mA$ ✓

b.





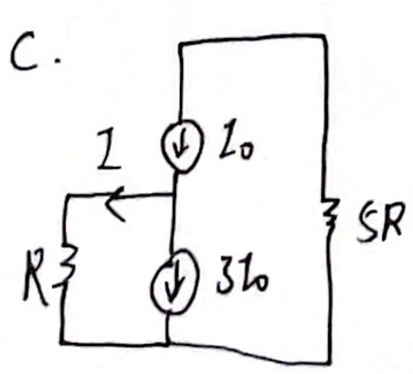
$I_1 = \frac{U_0}{R} = \frac{12V}{10\Omega} = 1.2A$

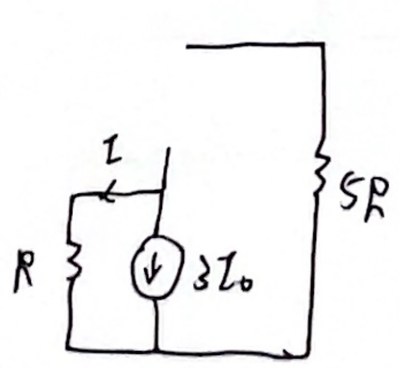


$I_2 = 0A$

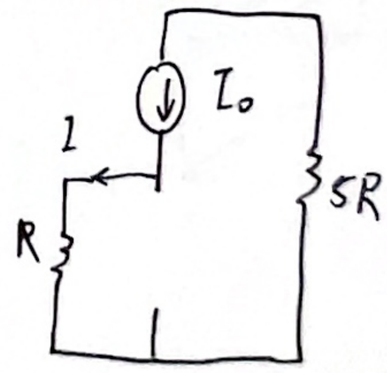
$I = 1.2A$ ✓

c.





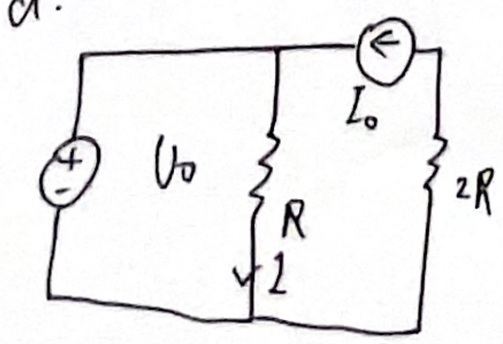
$I_1 = -3I_0 = -150mA$

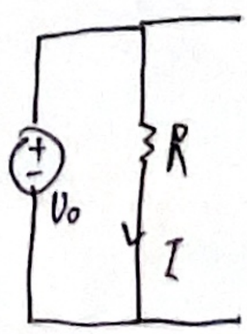


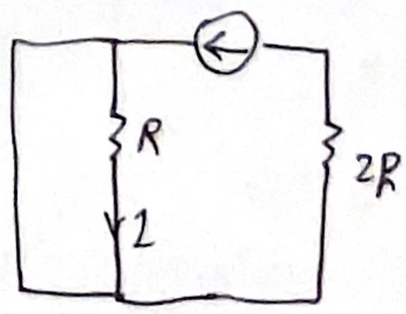
$I_2 = I_0 = 50mA$

$I = -100mA = -0.1A$ ✓

d.







$I_1 = \frac{U_0}{R} = \frac{12V}{10\Omega} = 1.2A$

$I_2 = $ ~~$U_0 = 50mA$~~

~~$I = 1.2A + 50mA$~~

$I = 1.2A$ ✓