$$dV = \frac{1}{4\pi\varepsilon_0}\frac{dq}{r}$$

Det resulterende potensialet blir

$$V = V(z) = \int dV = \frac{1}{4\pi\varepsilon_0}\int\frac{dq}{r} = \frac{2\pi\sigma}{4\pi\varepsilon_0}\int_{R_1}^{R_2}\frac{R\,dR}{\sqrt{R^2+z^2}}$$

$$= \frac{\sigma}{2\varepsilon_0}\Big|_{R_1}^{R_2}\sqrt{R^2+z^2} = \underline{\underline{\frac{\sigma}{2\varepsilon_0}\left(\sqrt{R_2^2+z^2}-\sqrt{R_1^2+z^2}\right)}}$$

c) Ringens omkrets (lengde): $L = 2\pi R_0$.

Motstanden i ringen er $R = \frac{1}{\sigma}\frac{L}{A}$

slik strømstyrken blir

$$I = \frac{|\mathcal{E}|}{R} = \frac{6.0\cdot 10^{-3}\,V\cdot 5{,}81\cdot 10^{7}\,\frac{A}{Vm}\cdot 1{,}5\cdot 10^{-6}\,m^2}{2\cdot\pi\cdot 5{,}0\cdot 10^{-2}\,m} = \underline{1{,}66\,A}$$

$(\approx 1{,}7\,A)$