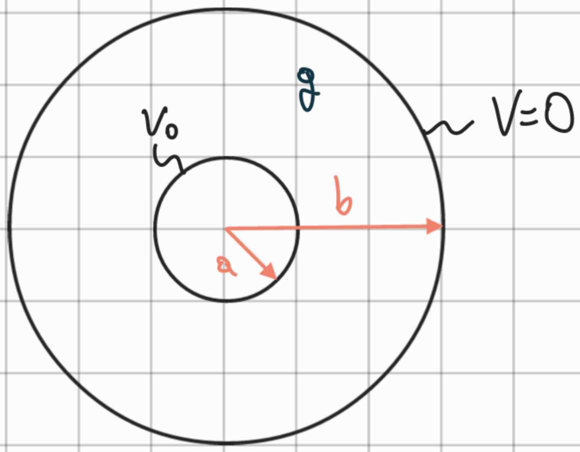


Por simetría: $\vec{E} = E(r)\hat{r} \Rightarrow \vec{J} = J(r)\hat{r}$ $\boxed{+1.0}$

Continuidad: $\nabla \cdot \vec{J} = 0 \Rightarrow \frac{\partial}{\partial r}(r J_r) = 0$

$$\Rightarrow \vec{J} = \frac{A}{r}\hat{r} \Rightarrow \vec{E} = \frac{A}{g r}\hat{r}$$ $\boxed{+1.0}$

$$\Delta V = V_0 = -\int_b^a \frac{A}{g r}\hat{r}\cdot\hat{r}\,dr = \frac{A}{g}\ln\left(\frac{b}{a}\right)$$

$\Rightarrow A = \frac{g V_0}{\ln(b/a)}$ $\boxed{+1.0}$

$\therefore$

$$\vec{J} = \frac{g V_0 \hat{r}}{\ln(\frac{b}{a})\, r}$$

$$I = \int_{-\frac{L}{2}}^{\frac{L}{2}}\int_0^{2\pi} \frac{g V_0 \hat{r}}{\ln(\frac{b}{a})\cancel{r}}\cdot\hat{r}\,\cancel{r}\,d\varphi\,dz = \frac{2\pi L g V_0}{\ln(b/a)}$$

$\boxed{I = \frac{2\pi L g V_0}{\ln(b/a)}}$ $r \in (a, b)$

$\boxed{I=0}$ $r<a$ y $r>a$ $\boxed{+1.0}$

b)

$V = IR$ $\boxed{+1.0}$

$$R = \frac{V_0}{I}$$

$$\boxed{R = \frac{\ln(b/a)}{2\pi L g}}$$ $\boxed{+1.0}$