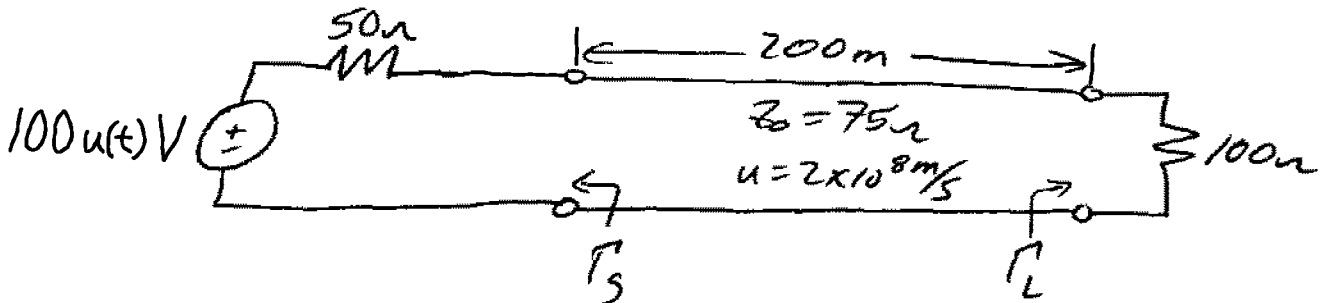


A 200 m long, lossless transmission line ($Z_0 = 75 \Omega$, $u = 2 \times 10^8$ m/s) is driven by a generator with an open circuit voltage of $100 u(t)$ V and a Thevenin resistance of 50Ω . It is terminated by a 100Ω resistive load. Find and sketch $V(z, t = 1.25T)$ and $I(z, t = 1.75T)$.



$$\Gamma_g = \frac{50 - 75}{50 + 75} = -0.2$$

$$\Gamma_L = \frac{100 - 75}{100 + 75} = 1/7$$

$$T = \frac{l}{u} = \frac{200}{2 \times 10^8} = 1 \mu s$$

$$V^+ = (100V) \frac{75 \Omega}{50 + 75 \Omega} = 60V$$

$$I^+ = \frac{100V}{50 + 75 \Omega} = 0.8A = 800mA$$

