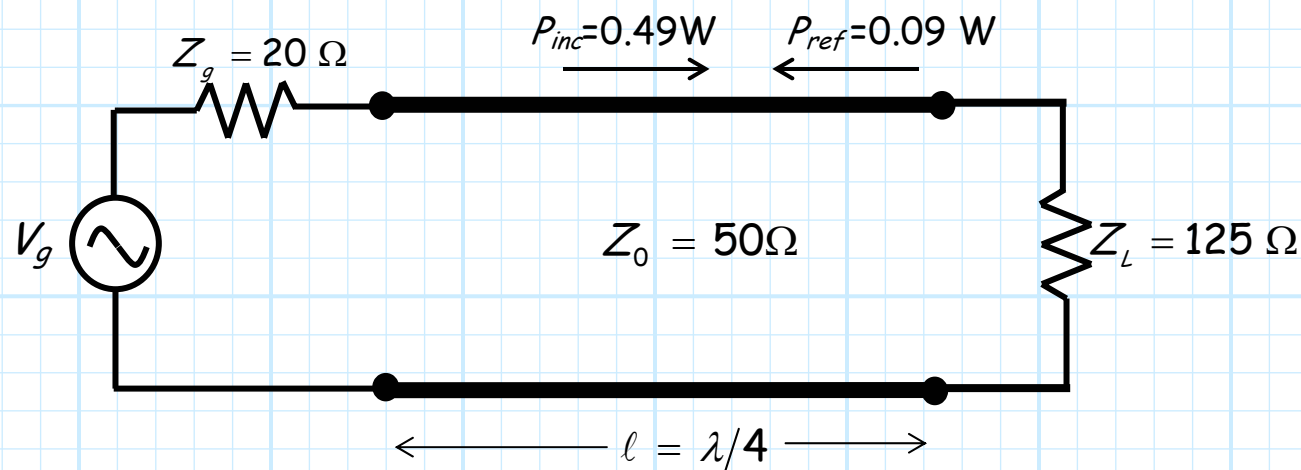


### Special Problem 2.6-7

Consider this circuit, where the transmission line is **lossless** and has length  $l = \lambda/4$ :



The wave incident on the load  $Z_L$  has power of  $P_{inc} = 0.49 \text{ W}$ .

The wave reflected from the load  $Z_L$  has power of  $P_{ref} = 0.09 \text{ W}$ .

Determine the magnitude of source voltage  $V_g$  (i.e., determine  $|V_g|$ ).

**Hint:** This is **not** a boundary condition problem. Do **not** attempt to find  $V(z)$  and/or  $I(z)$ !