Chapter 10, Problem 89.

The op amp circuit in Fig. 10.131 is called an *inductance simulator*. Show that the input impedance is given by,

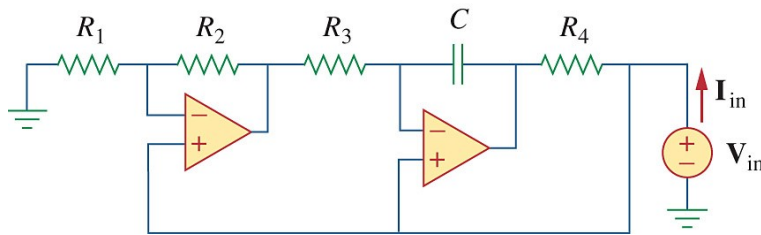$$\mathbf{Z}_{in} = \mathbf{V}_{in}/\mathbf{I}_{in} = j\omega L_{eq}$$

where

$$L_{eq} = [(R_1R_3R_4)/R_2]C.$$

Figure 10.131
For Prob. 10.89.