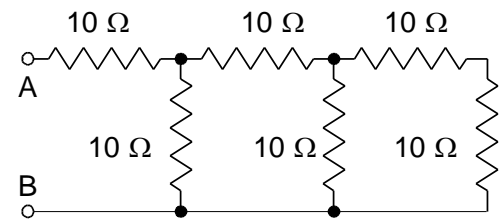


Homework 4 Equivalent Transformations

HW16:

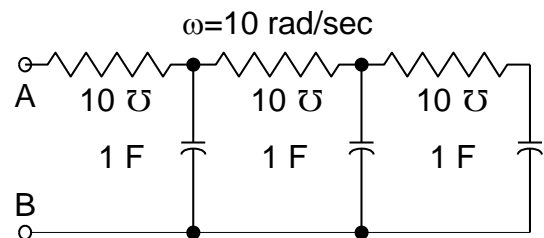
Consider the circuit shown to the right.

- Should the input impedance be higher than, lower than, or equal to 10 Ohms? Explain your answer.
- Calculate the input impedance of the circuit given to the right.



HW17:

- Find the input admittance of the circuit shown to the right.

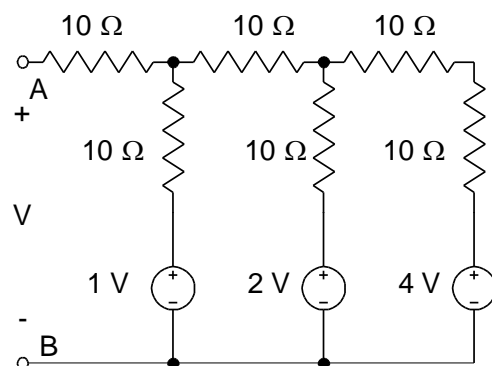


HW18:

- Design a capacitive voltage divider that will have an output voltage of 50V when the input voltage is 0.5 MV. Assume that the input impedance magnitude is 50 Ohms when the frequency is 200 kHz.
- Will your design work for a DC input voltage? Will it work for really, really high frequencies? Your explanations should hook up the mathematics with what is happening physically in the circuit.

HW19:

Use superposition to Find the voltage across the terminals A – B in the figure shown on the right.



HW20:

Design a resistive current divider that will have an output current of 10 mA when the input current is 50A.