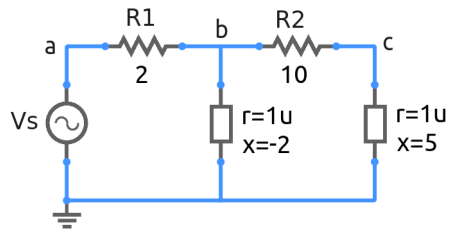


## ee101\_phasors\_2.sqproj



### Exercise Set

For the circuit shown in the figure, assume sinusoidal steady state.

1. Find the current through each component. Do it in two ways: (a) Obtain a single equation (KCL) in terms of the phasor  $\mathbf{V}_b$ , solve it, and then obtain the currents. (b) Reduce the network as seen from the source to a single impedance, obtain the source current, and then obtain the other currents using current division formula.

Ignore small resistances ( $1\mu\Omega$ ).

2. Find the average power absorbed or delivered by each element. Verify that the total average power absorbed is equal to the total average power delivered.
3. Compare your values with simulation results.
4. Write an expression for each current in the time domain.