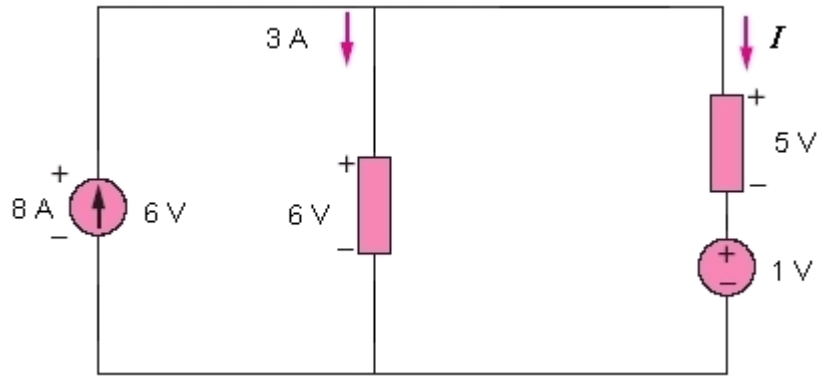
Question 1

Find *I* in the network shown below. (Round your answer to 2 decimal digits if necessary.)



***I* = ____ A**

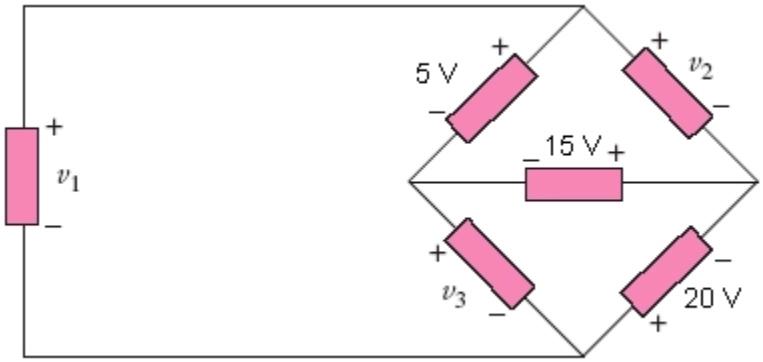
Question 2

A 2.3−kW toaster takes roughly 5 minutes to heat four slices of bread. Find the cost of operating the toaster once per day for 1 month (30 days). Assume energy costs 10 cents/kWh. (Round your answer to 2 decimal digits if necessary.)

***Cost* = ____ cents**

Question 3

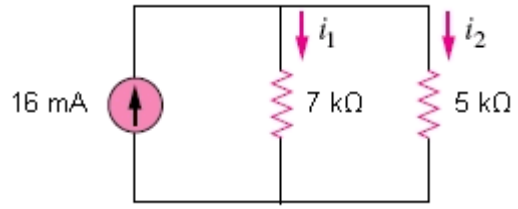
Find v_1, v_2, and v_3 in the circuit shown below.



v_1 = ____ V
v_2 = ____ V
v_3 = ____ V

Question 4

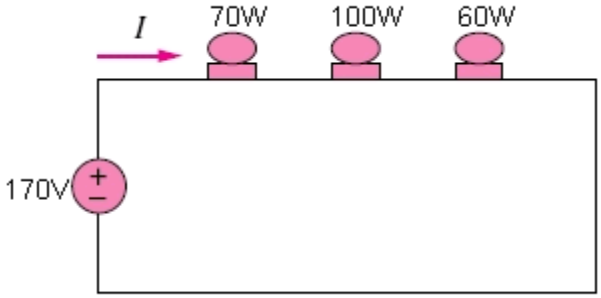
For the circuit shown below find i_1 and i_2.
Round to two decimal places if necessary.



i_1 = ____ mA
i_2 = ____ mA

Question 5

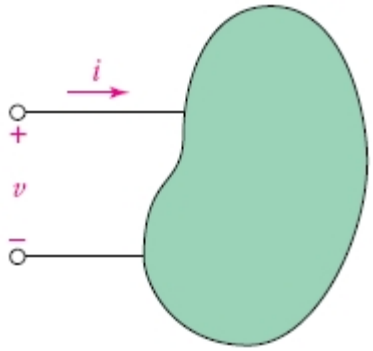
Three lightbulbs are connected in series to a 170−V battery as shown in the figure below. Find the current I through the bulbs. (Round your answer to 2 decimal digits if necessary.)



i = ____ A

Question 6

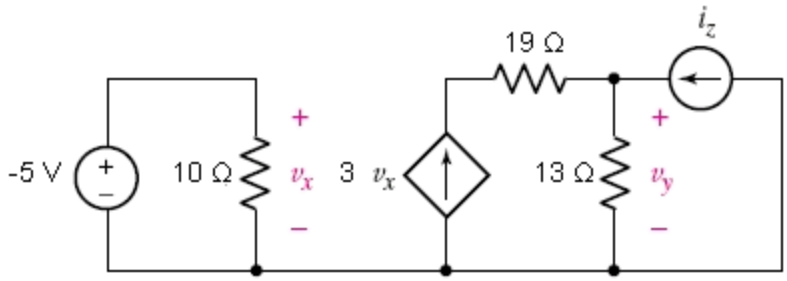
Let $i = 8te^{-150t}$ mA and $v = (0.006 - 0.2t)e^{-150t}$ V for the circuit element shown below. How much energy is delivered to the element in the interval $0 < t < \infty$? Round to two decimal places.



Energy = ____ $\times 10^{-7}$ mJ

Question 7

In the circuit shown below

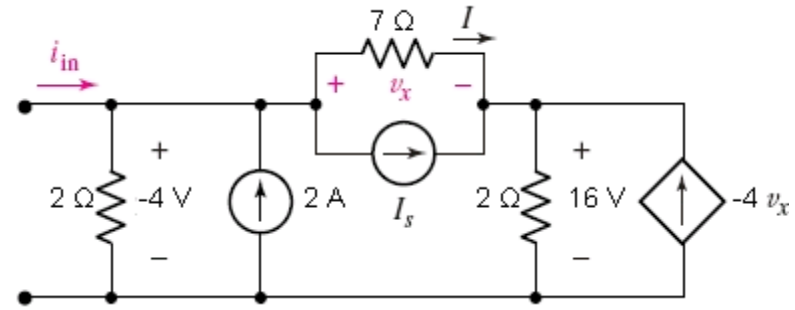


Calculate v_y if i_z = 14A. (Round to 2 decimal places.)

v_y = ____ V

Question 8

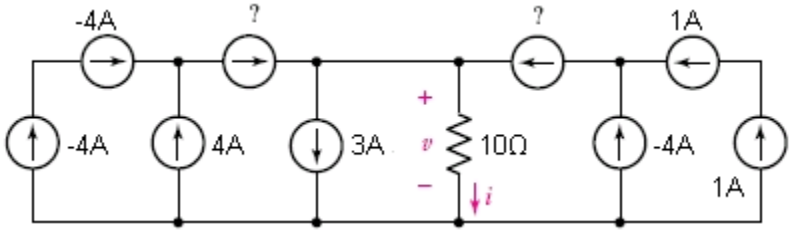
Use Ohm's and Kirchoff's laws on the circuit shown below to find i_{in}. (Round your final answer to a whole number if necessary.)



i_{in} = ____ A

Question 9

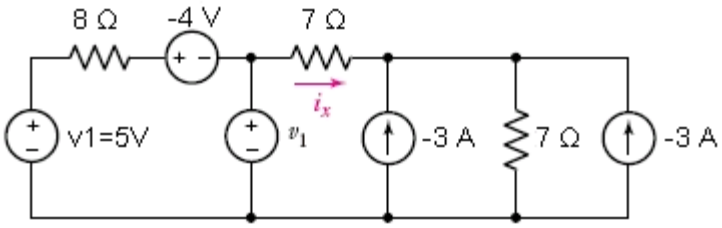
Using combinations of sources, compute *i* for the circuit in the figure below.



***i* = ____ A**

Question 10

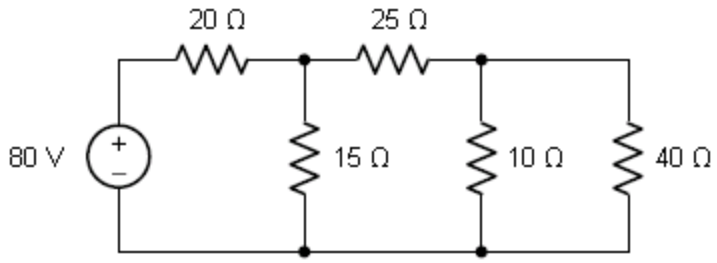
In the circuit shown below, choose v_1 to obtain a current i_x of −3 A



v_1 = ____ V

Question 11

Find the power absorbed by each of the resistors in the circuit shown below. Round all calculations to two decimal places.



$P_{20\,\Omega}$ = ____ W
$P_{15\,\Omega}$ = ____ W
$P_{25\,\Omega}$ = ____ W
$P_{10\,\Omega}$ = ____ W
$P_{40\,\Omega}$ = ____ W