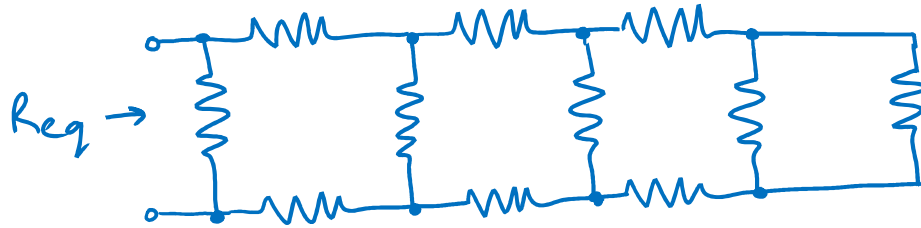


At Tutorial 1 – Marked Question (1st March 2019)

Chapter 3, Ex 58: Equivalent resistance

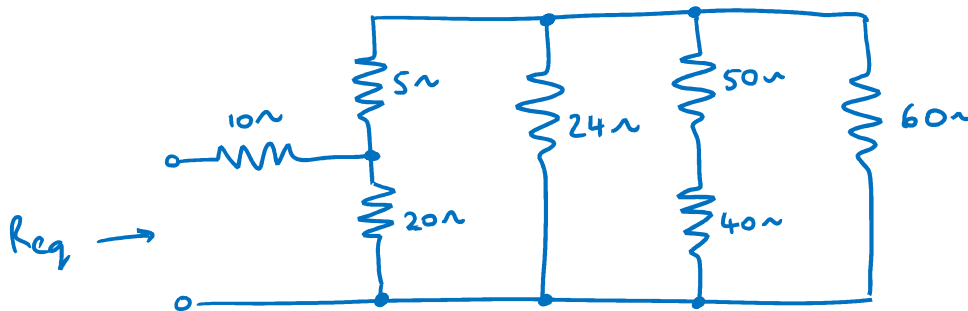
Find the equivalent resistance, R_{eq} , for each of the three resistive networks shown.

a) Each resistor is $100\ \Omega$.



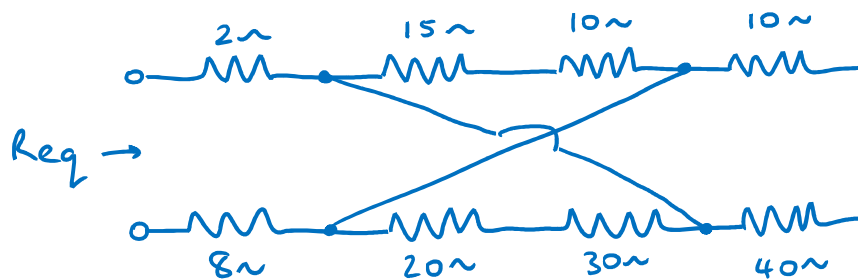
Chapter 3, Ex 58 cont.

b)



Chapter 3, Ex 58 cont.

c)



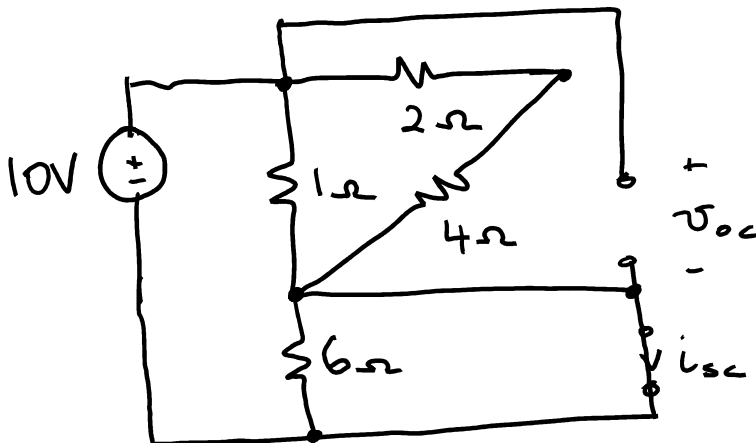
At Tutorial 1 – Unmarked Questions (1st March 2019)

Chapter 2, Ex 42: Ohm's Law

Determine the magnitude of the current flowing through a $4.7 \text{ k}\Omega$ resistor if the voltage across it is:

- a) 1 mV
- b) 10 V
- c) $4e^{-t} \text{ V}$
- d) $100 \cos(5t) \text{ V}$
- e) -7 V

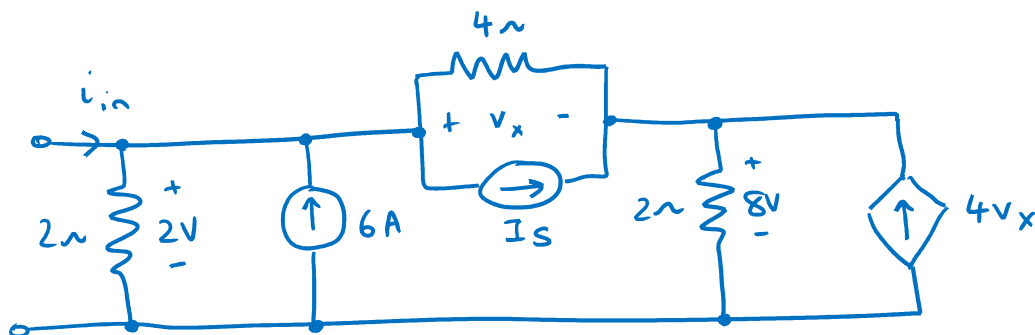
KS Question 1: Parallel Components, Open Circuits, Short Circuits, Ohm's Law



For the circuit above, determine the following:

- a) what (if anything) is in parallel
- b) the voltage across the open circuit
- c) the current through the short circuit

Chapter 3 Ex 20: Ohm's and Kirchoff's laws

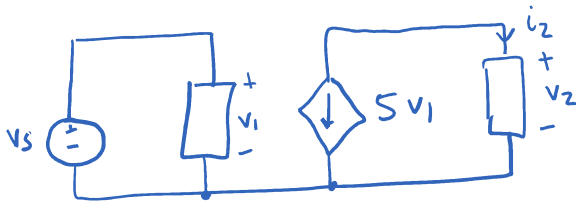


Use Ohm's and Kirchoff's laws on the circuit below to find v_x , I_s , i_{in} , and the power supplied/ provided by the dependent source.

Extra Questions for Tutorial 1 (no worked solutions just final answer given)

Ch 2 ex 23 [Ans: $v_s = -1 \text{ mV}$]

For the circuit below, determine v_s if $v_2 = 1000i_2$ and $i_2 = 5 \text{ mA}$.



Ch 2, Ex 27 [Ans: a) $4.545 \text{ mA} - 5.556 \text{ mA}$. b) $22.73 \text{ mW} - 27.78 \text{ mW}$]

A $1\text{k}\Omega$ resistor with a 10% tolerance may have a value anywhere within the range $900 - 1100 \Omega$. Answer the following questions assuming 5.0 V is applied across the resistor.

- What is the range of currents that might be measured?
- What is the range of power that might be measured?

Ch 3 ex 36 [Ans: $i_x = 571.4 \mu\text{A}$]

Find the current i_x in the circuit below.

