**Session 3 - Voltage dividers**

First we'll revise a bit of basic electrical circuit theory. Take a quick look at this video (don't worry about the parallel circuit stuff!).

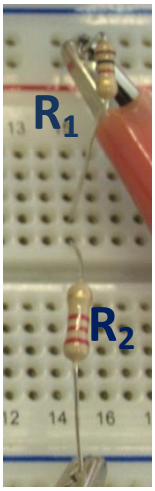
https://www.bbc.co.uk/bitesize/guides/zk37hyc/video

Now look at the notes on series circuits:

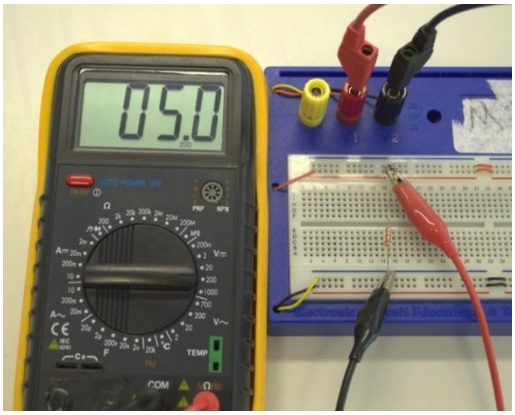
https://www.bbc.co.uk/bitesize/guides/zk37hyc/revision/1

https://www.bbc.co.uk/bitesize/guides/zk37hyc/revision/2

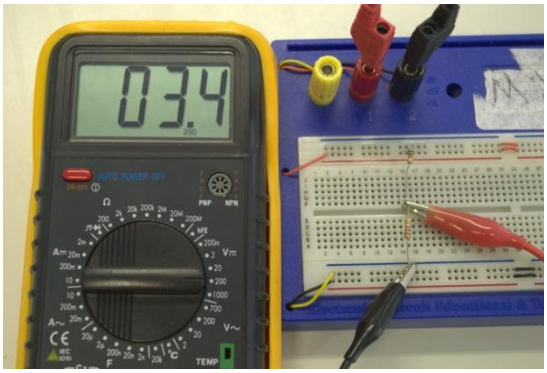
We can use a pair of resistors in a circuit to divide up a voltage – this circuit is called a VOLTAGE DIVIDER (or a potential divider).




Here the voltmeter is measuring across both resistors and measures the value of the 5V supply.




Here the voltmeter is measuring across just the bottom resistor:

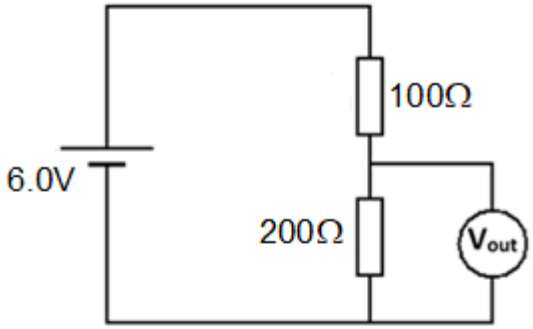



So, with 5V "input" to the circuit, we can get 3.4V "output" and if we choose specific resistor values we could get whatever we want. (If the voltages in a series circuit add up to the supply voltage, there must be 1.6V across the top resistor).

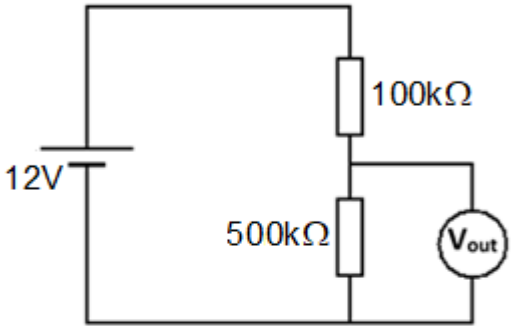
Watch this short YouTube video clip which explains how to ***calculate*** the output voltage from a voltage divider, then try and answer the questions.

https://www.youtube.com/watch?v=e8o9MNuo-bI

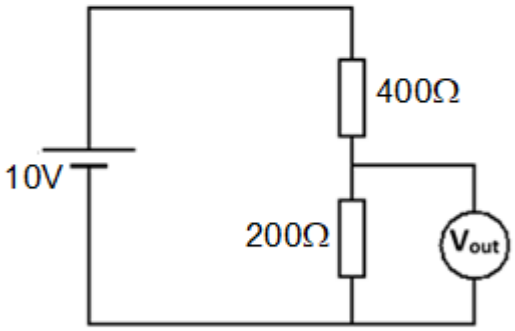
**Question 1 –**




**Question 2 –**




**Question 3 –**




**Question 4 –**