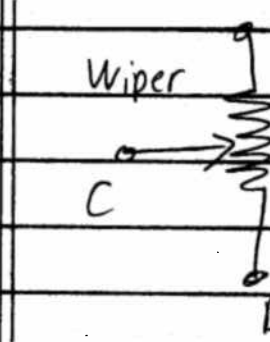
Good summary in Table 2-3 of text.

Application of Voltage Division:
We began using a device in lab yesterday:
Potentiometer (Pot) or Variable Resistor.



Think of this as a knob you turn to change the setting, like a volume control.

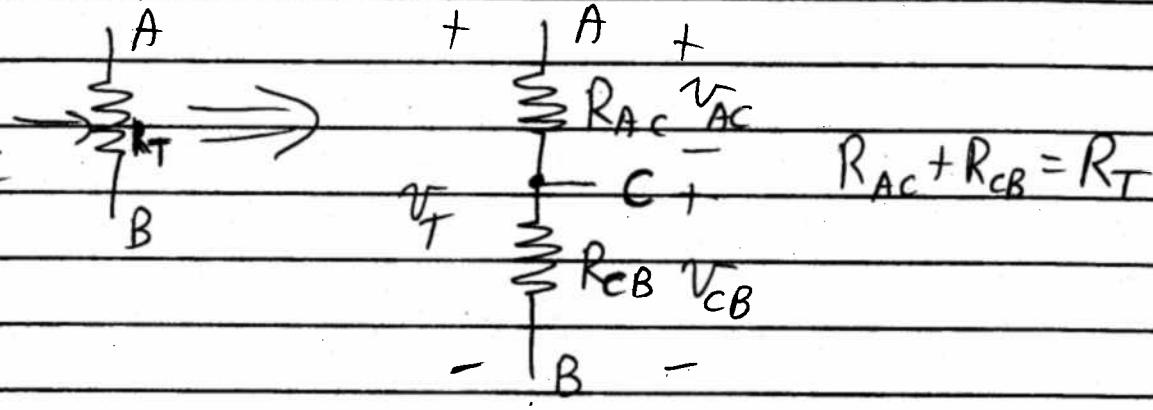
The wiper makes contact in the middle portions of the resistor, dividing it into 2 parts:

$$R_{AB} = R_T \qquad R_{AC} + R_{CB} = R_T$$

So, when turned fully CCW, $R_{AC} = R_T$
$R_{CB} = 0$

and when fully CW: $R_{AC} = 0$
$R_{CB} = R_T$

It helps to think like this:



$R_{AC} + R_{CB} = R_T$

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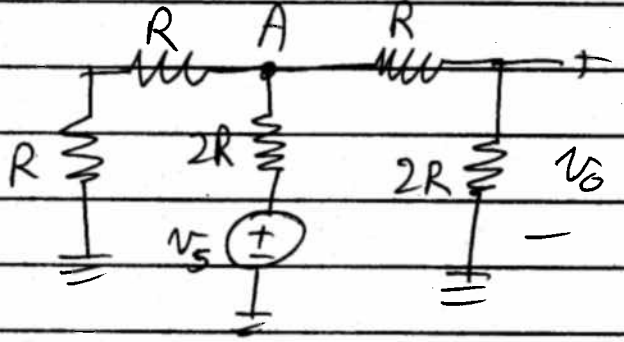
Resume

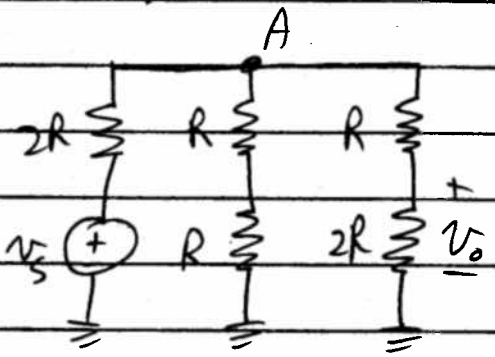
Example of Ckt Reduction – Ex 2-27 (pg 56)

Find V_o in:



Text solves like this:

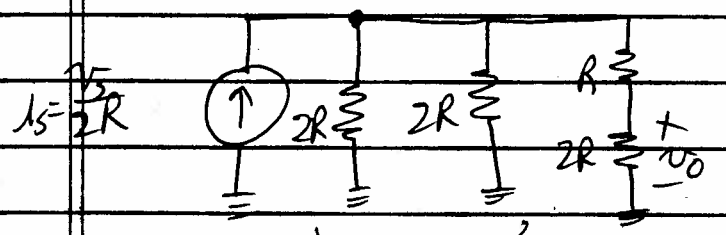
Rearrange w/ A at top & V_s on left:



↑ combine to 2R

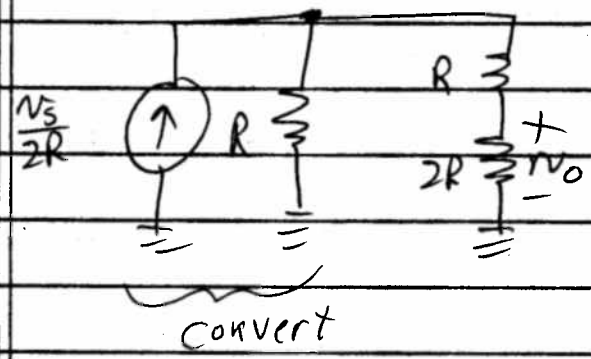
Go to "Far Side" from V_o: see Pract V_s src // 2R

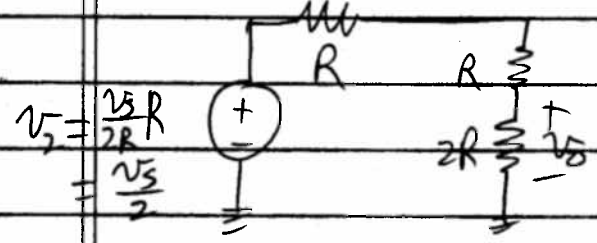
Convert Pract V_s to Pract I_s:



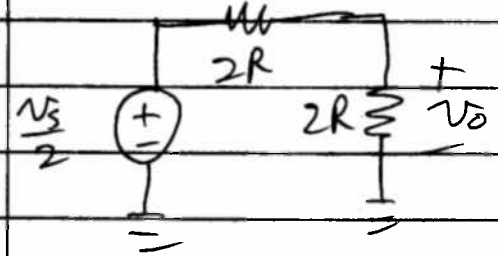
$R_{eq} = R$

← always keep the thing you are looking for! Do not combine into a 3R.





Text stopped here, I would go on:



Now it is pretty obvious:

$$V_o = \frac{1}{2}\left(\frac{V_s}{2}\right) = \frac{V_s}{4}$$