Bridge Circuits

Objectives:

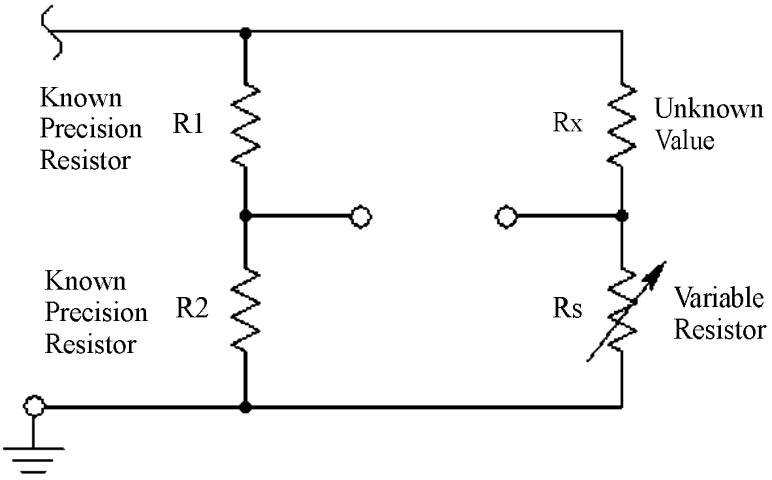
State the purpose of a bridge circuit.
Identify a bridge circuit.
Solve for voltage outputs.

Solve for unknown resistance.
Measure voltages in a bridge cicuit.
Measure resistance in a bridge circuit.

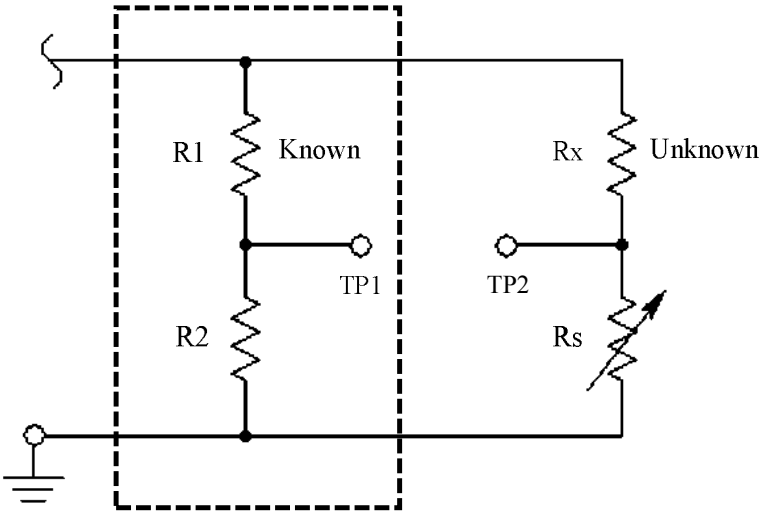
Bridge Circuits

Compare know values to unknown values.

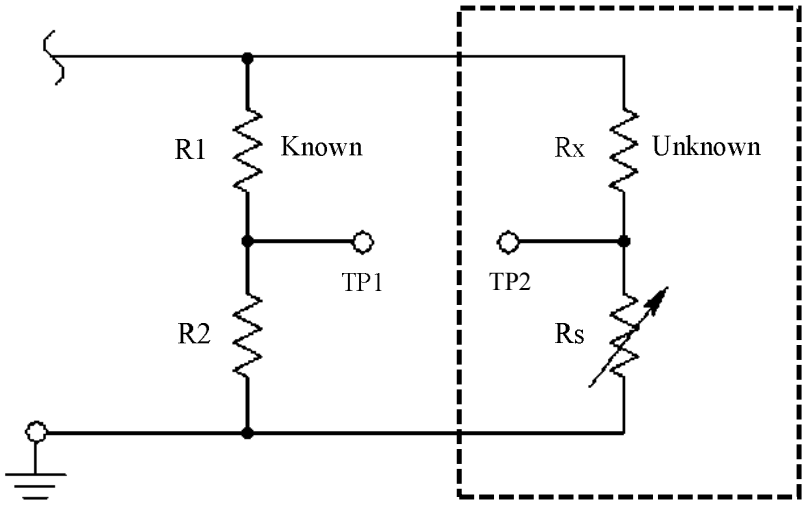
A bridge circuit is two voltage dividers wired in parallel.



The voltage divider of R1 and R2 are a reference.
The voltage at TP1 will always be the same for that voltage divider.



The voltage divider of Rx and Rs are unkown.
Rx will change due to outside forces.
This will cause the voltage at TP2 to change.

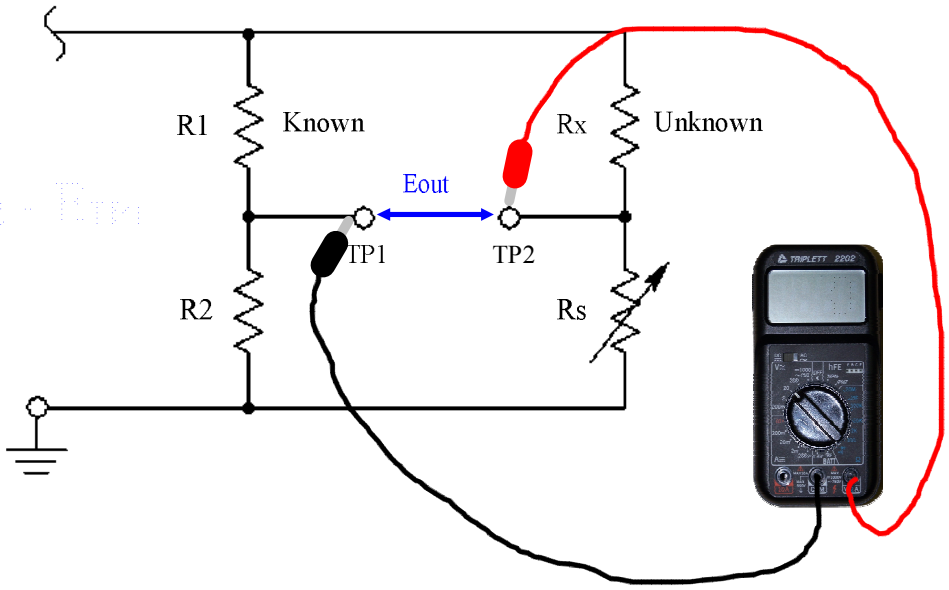


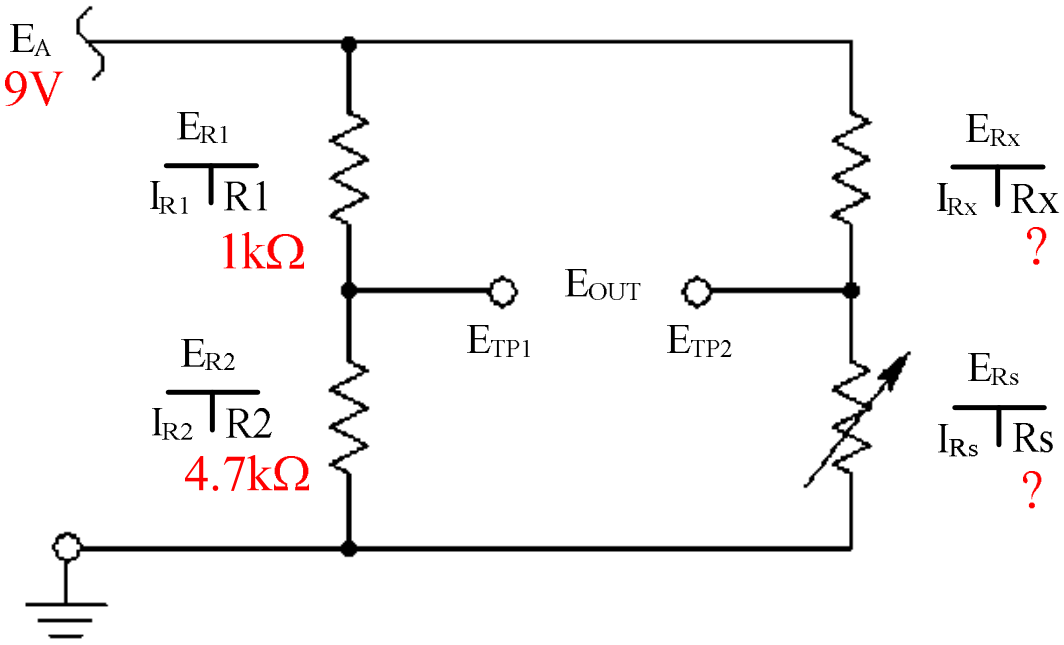
The voltage between TP1 and TP2 are compared for differences.

If no difference exists, the output will be 0V. This is known as balanced.

If TP2 is more than TP1, E_{OUT} will be positive.

If TP2 is less than TP1, E_{OUT} will be negative.

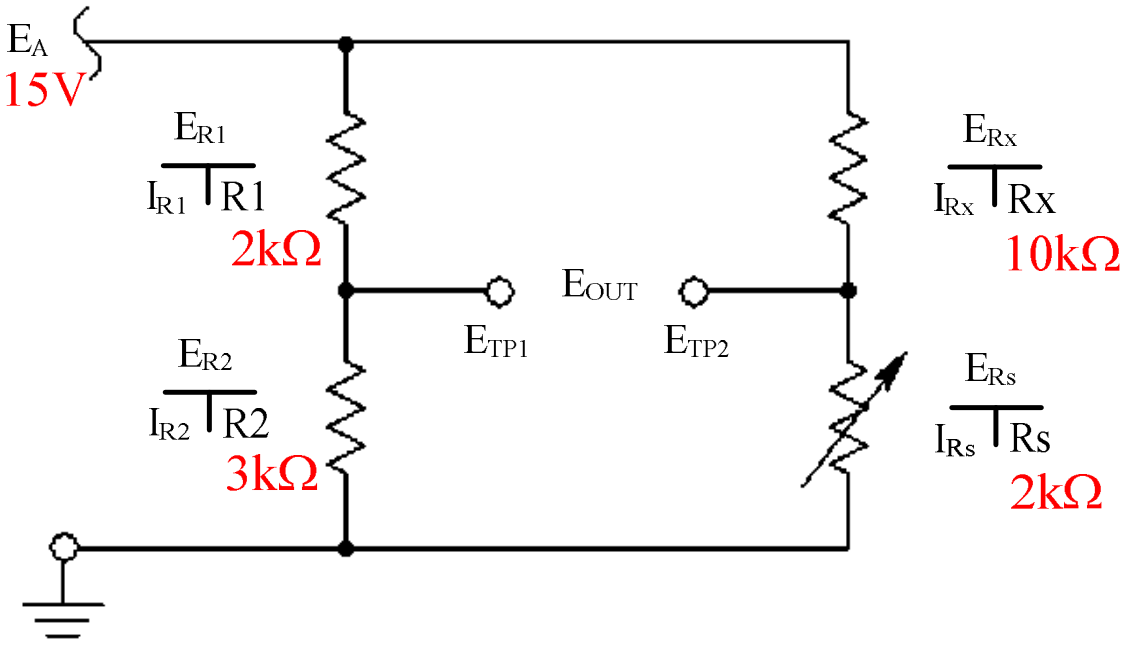




E_{TP1} = _____

E_{TP2} = _____

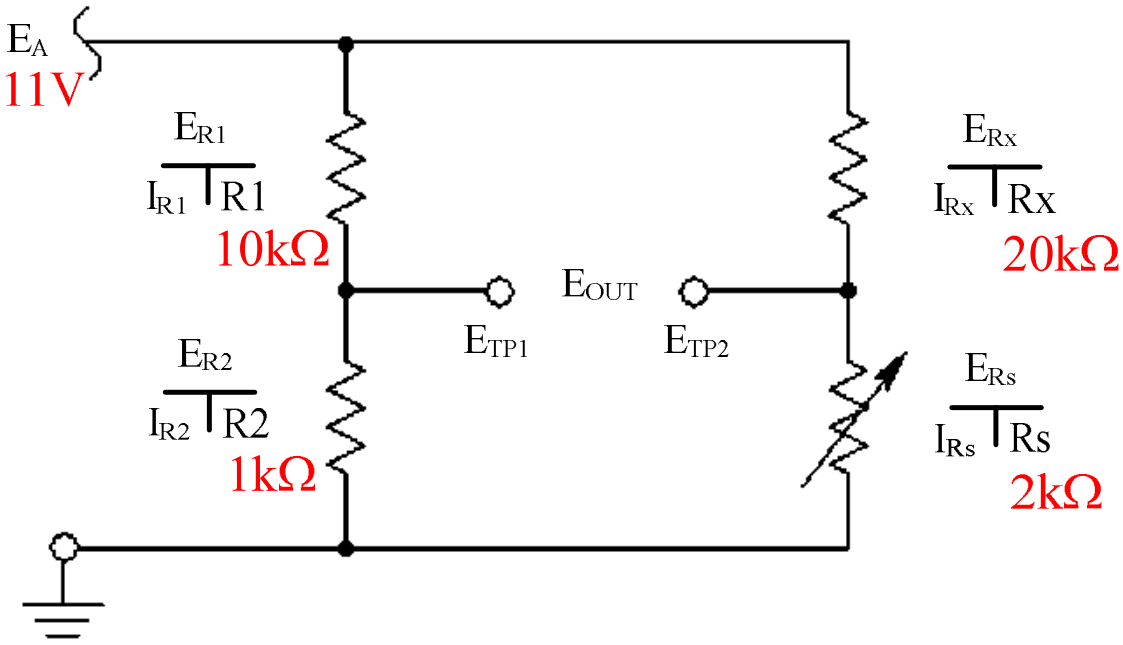
E_{OUT} = _____



E_{TP1} = _____

E_{TP2} = _____

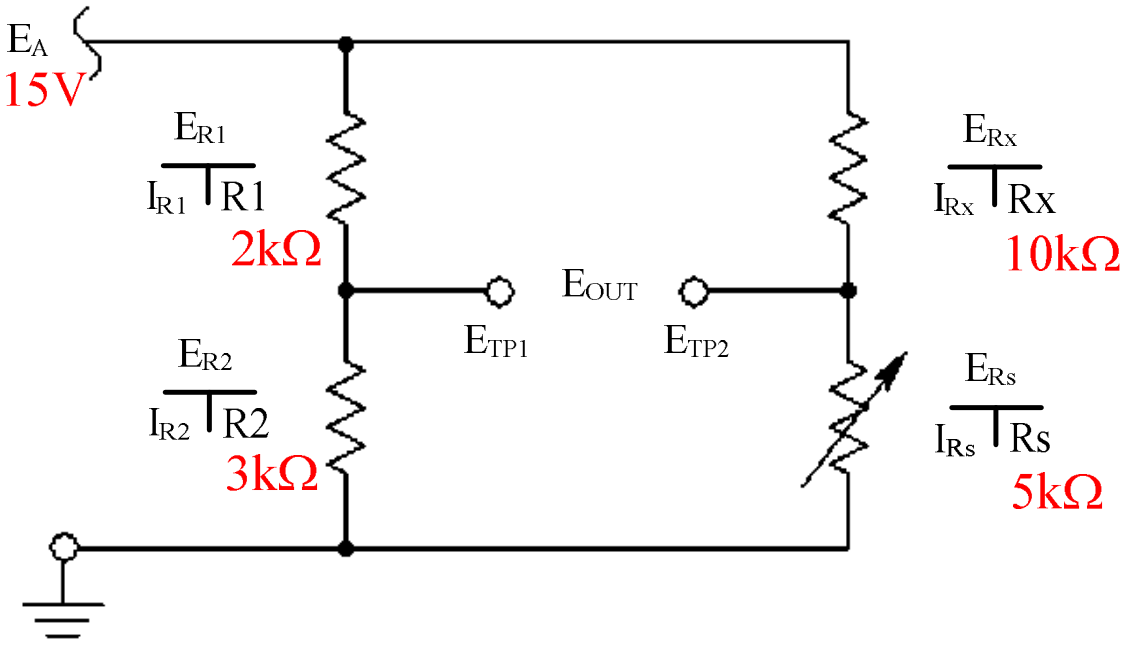
E_{OUT} = _____



E_{TP1} = _____

E_{TP2} = _____

E_{OUT} = _____



E_{TP1} = _____

E_{TP2} = _____

E_{OUT} = _____