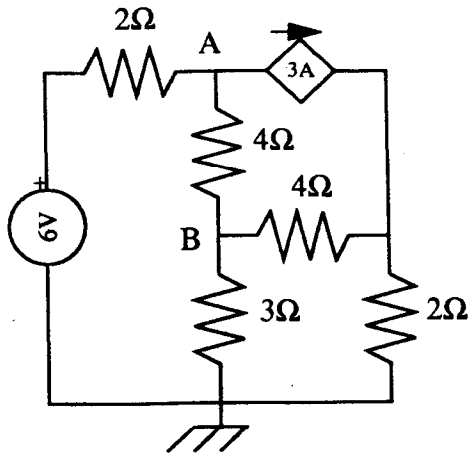


Name: Key

Quiz 2

Consider the following circuit:



1. Find the potential at points A and B if the current source is suppressed.

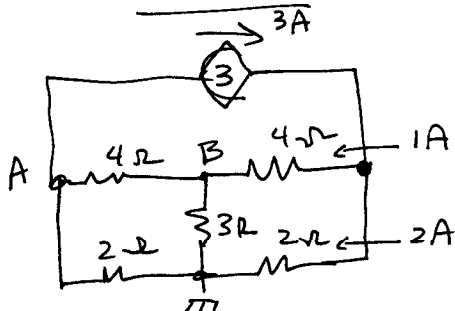
$$6V \text{ across } 2 + 4 + (3 \parallel (2 + 4)) = 8\Omega$$

$$A = 6V - \frac{2}{8} \cdot 6V = +4.5V$$

$$B = 6V - \frac{6}{8} \cdot 6V = +1.5V$$

2. Find the potential at points A and B if the voltage source is suppressed. (Hint use symmetry!)

Now $B = 0V$ since current is balanced:



Also easy to see that Bottom mesh is $\frac{1}{2}$ resistance of top mesh $\Rightarrow 2 \cdot B$
 $\Rightarrow 1A$ in top $2A$ in bottom

$$\Rightarrow A = -4V$$

3. What is the total potential from both sources at A and B?

$$\text{Totals: } A = \frac{1}{2}V$$

$$B = 1.5 = \frac{3}{2}V$$