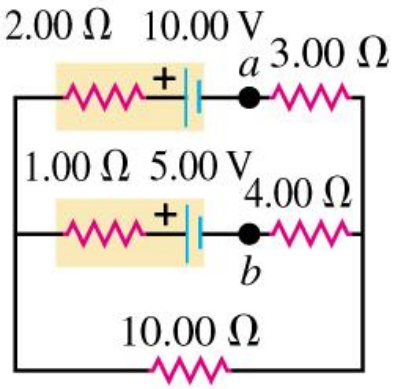
Question



A) In the circuit shown in the figure , find the magnitude of current in the upper branch.
B) Find the magnitude of current in the middle branch.
C) Find the magnitude of current in the lower branch.

Best Answer

Anonymous answered this 1 hour later
486 answers

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the kirchoff's loop eqns in upper loop is
-2Ia-10-3Ia+4Ib+5+Ib=0
=>5Ib-5Ia=5
=>Ia=Ib-1.....(1)
for lower loop
-Ib-5-4Ib+10Ic=0
=>10Ic-5Ib=5
=>2Ic-Ib=1
=>Ib=2Ic-1.....(2)
also
Ia+Ib+Ic=0
=>Ib-1+Ib+Ic=0
=>2Ib+Ic=1
=>4Ic-2+Ic=1
=>5Ic=3
=>Ic=3/5=0.6
so Ib=2Ic-1=0.2
Ia=Ib-1=-0.8

a)magnitude of current in upper branch=|Ia|=0.8 A
b)magnitude of current in middle branch=|Ib|=0.2 A
c)magnitude of current in lower branch=|Ic|=0.6 A
d)between a and b
Va-3Ia+4Ib-Vb=0
=>Va-Vb=3Ia-4Ib=-3x0.8-4x0.2=-2.4-0.8=-3.2 V

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More Answers

rockon79 answered this 33 minutes later
421 answers

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A)1.14 AMP
B)0.42 AMP
C)0.72 AMP
D)5.1 V

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Q: In the circuit shown in the figure (Figure 1). find the magnitude of current in the upper branch. Find the magnitude of current in the middle branch. magnitude of current in the

A: See answer

Q: In the circuit shown in the figure (Figure 1). find the magnitude of current in the upper branch. Find the magnitude of current in the middle branch. Find the magnitude of current

A: See answer

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