(65)

$\Delta V = I \cdot R$

20 volts

(A) $\Delta V =$
$I =$
$R = 5\Omega$

(C) $\Delta V =$
$I =$
$R = 2\Omega$

(B) $\Delta V =$
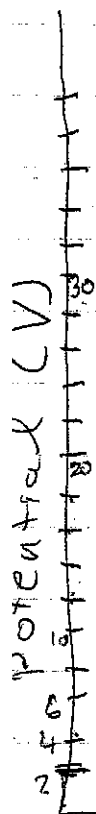$I =$
$R = 5\Omega$

(D) $\Delta V =$
$I =$
$R = 3\Omega$

Electric Potential (V)

20

10

8

6

4

2

① - Draw an equivalent circuit   ⑥ Draw the graph

② - Solve the equivalent circuit

③ - Draw the current on the equivalent-circuit

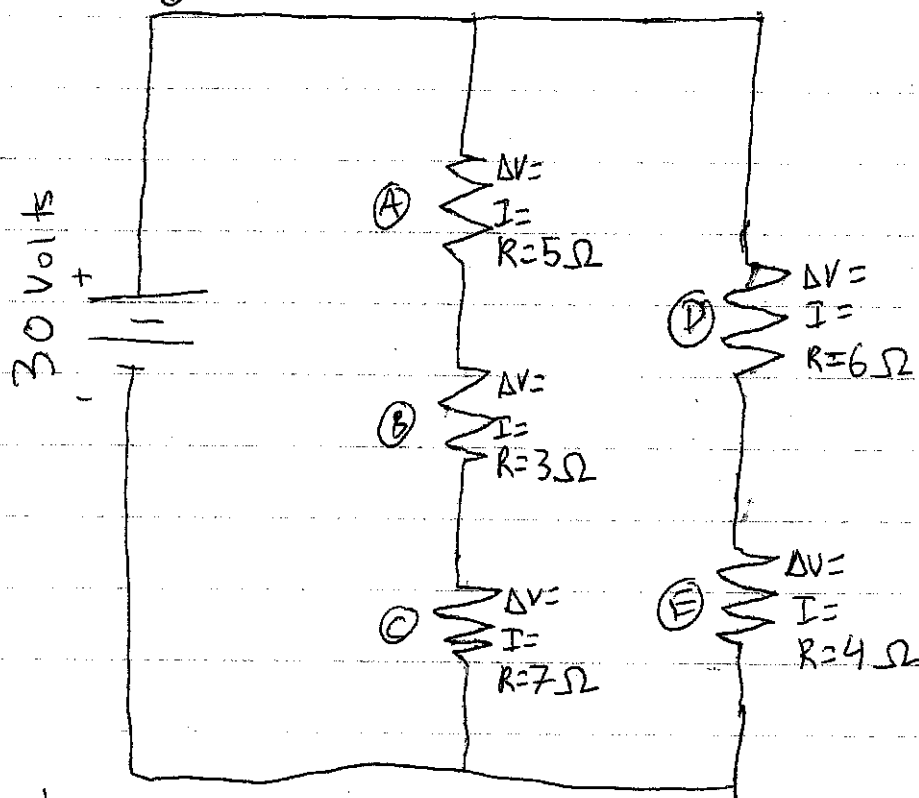④ - Go back to the original circuit and draw the current on it

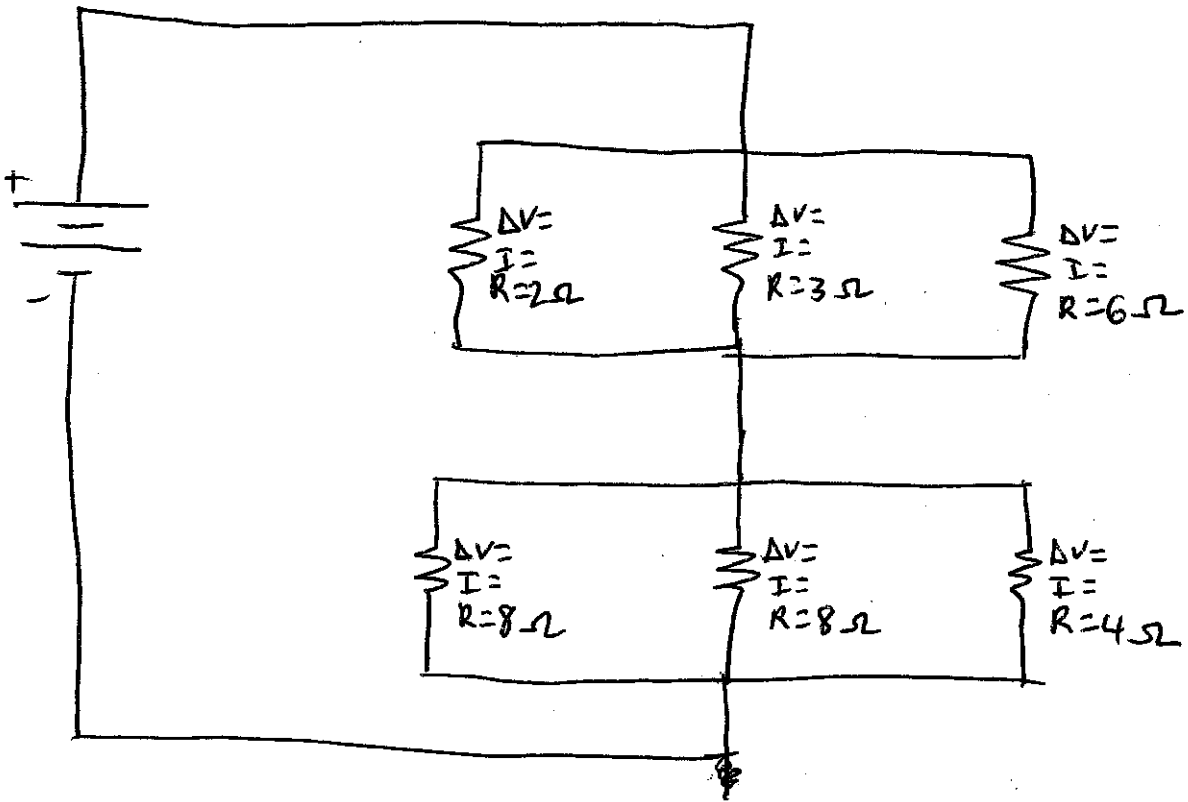⑤ - Solve each element of the original circuit

$$\Delta V = I \cdot R$$

30 volts

+

—

Ⓐ $\Delta V =$
   $I =$
   $R = 5\Omega$

Ⓑ $\Delta V =$
   $I =$
   $R = 3\Omega$

Ⓒ $\Delta V =$
   $I =$
   $R = 7\Omega$

Ⓓ $\Delta V =$
   $I =$
   $R = 6\Omega$

Ⓔ $\Delta V =$
   $I =$
   $R = 4\Omega$

Potential (V)

30

20

10

8
6
4
2

ex

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \longrightarrow$$ formula to add resistors in parallel

+

$\Delta V = 36V$

−

$\Delta V=$
$I=$
$R=2\Omega$

$\Delta V=$
$I=$
$R=3\Omega$

$\Delta V=$
$I=$
$R=6\Omega$

$\Delta V=$
$I=$
$R=8\Omega$

$\Delta V=$
$I=$
$R=8\Omega$

$\Delta V=$
$I=$
$R=4\Omega$

Draw the equivalent circuit here

6.7 cont.

electric potential (V)
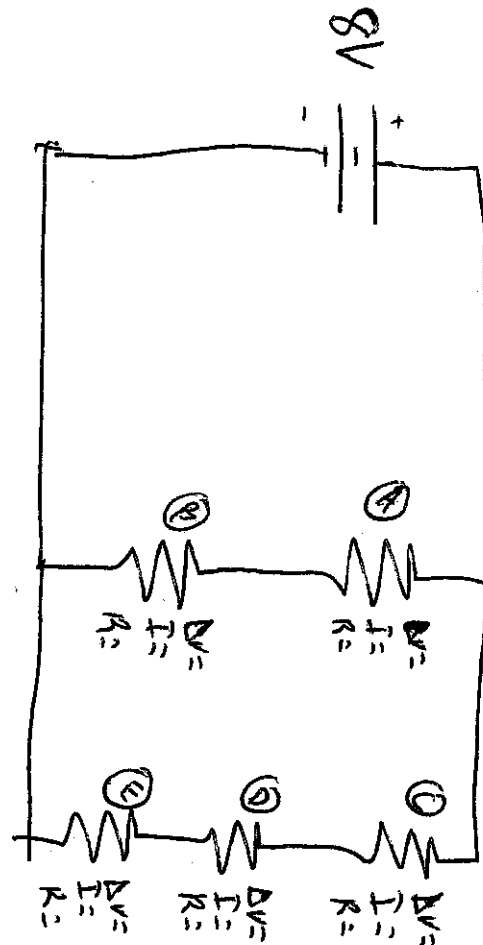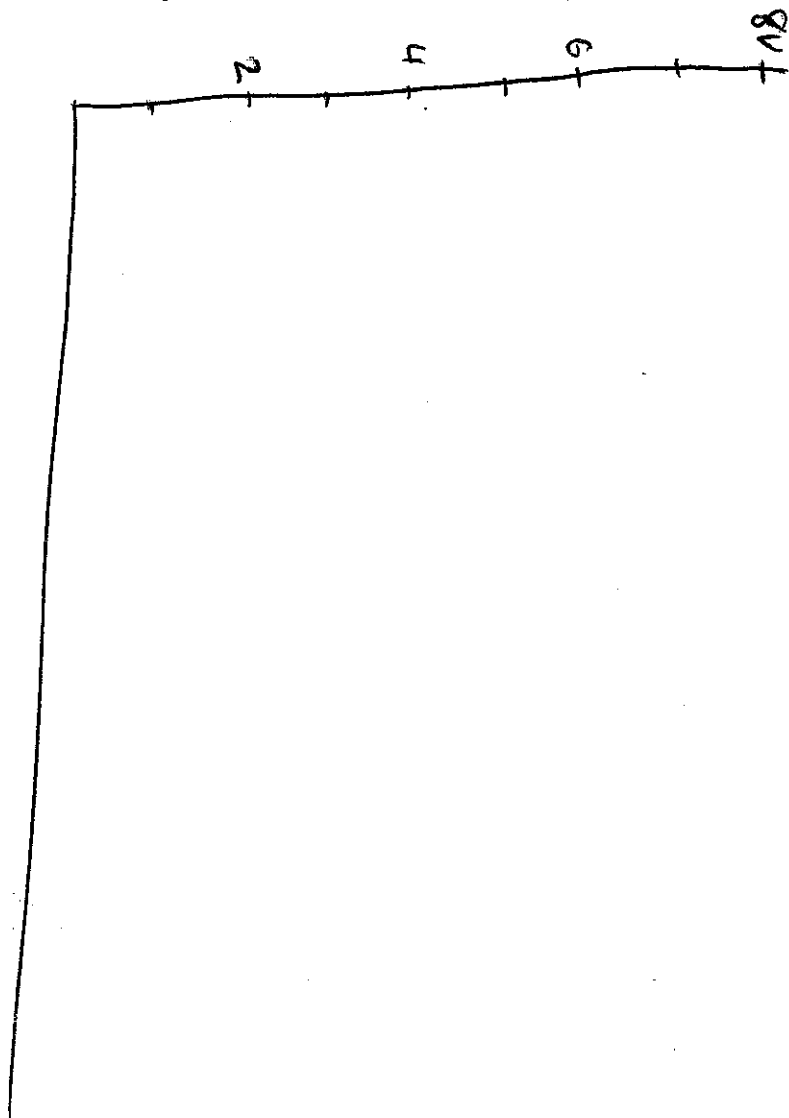
12 24 36

Electric Potential (V)

8V
6
4
2

8V

(B) $R_B = $ $\Delta V_B = $
(A) $R_A = $ $\Delta V_A = $
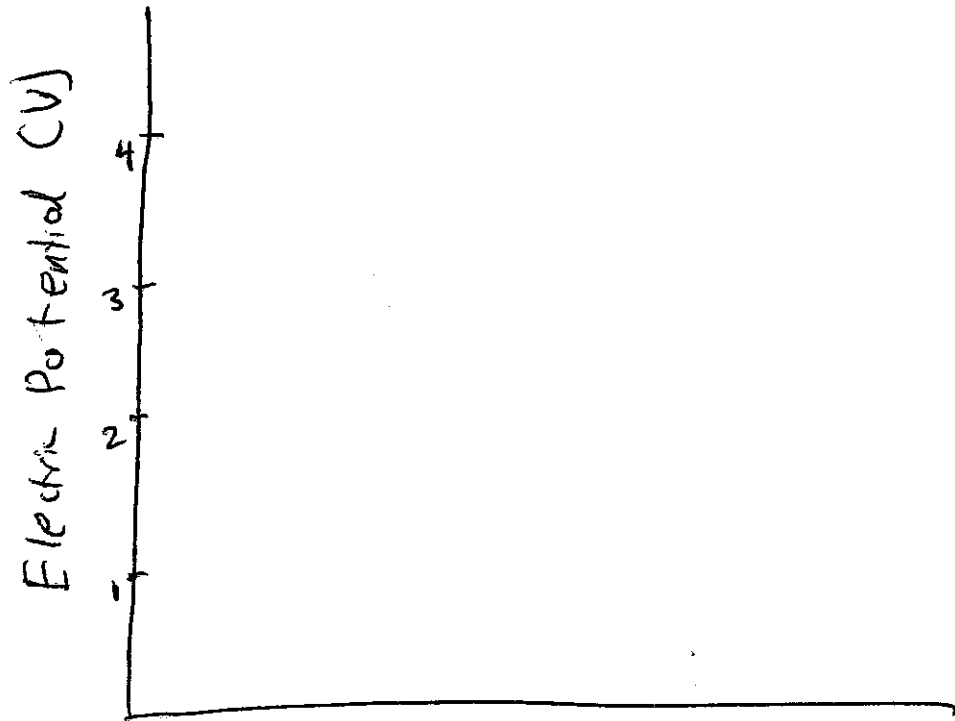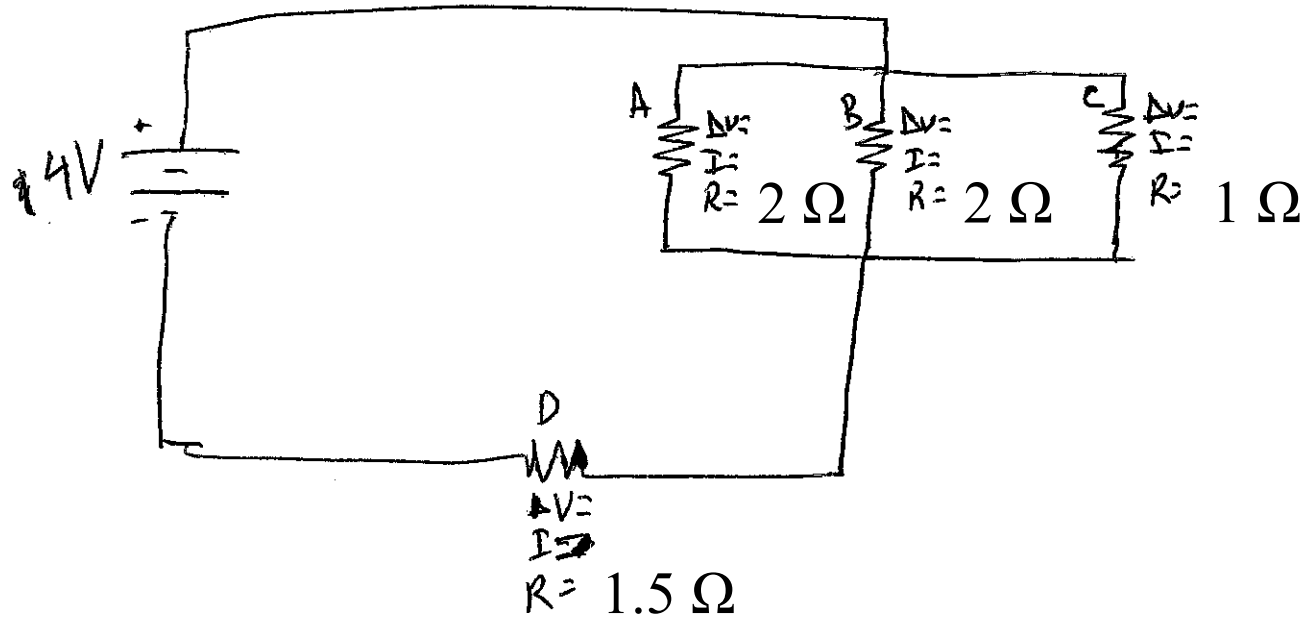
(E) $R_E = $ $\Delta V_E = $
(D) $R_D = $ $\Delta V_D = $
(C) $R_C = $ $\Delta V_C = $

Equivalent Circuit

G.8

Equivalent Circuit

9 4V

A Δv=
   I=
   R= 2 Ω

B Δv=
   I=
   R= 2 Ω

C Δv=
   I=
   R= 1 Ω

D
Δv=
I=
R= 1.5 Ω

Electric Potential (V)

4

3

2

1

Draw
Equivalent Circuit

30 volts

A $\Delta v=$
$I=$
$R=3\Omega$

B $\Delta V=$
$I=$
$R=6\Omega$

C $\Delta V=$
$I=$
$R=2\Omega$

D $\Delta V=$
$I=$
$R=12\Omega$

E $\Delta V=$
$I=$
$R=12\Omega$

Electric Potential (V)

30
24
18
12
9
6
3

G.11

Draw an
Equivalent
Circuit

28 volts

(A) ΔV=
I=
R=1Ω

(D) ΔV=
I=
R=3Ω

(B) ΔV=
I=
R=2Ω

(E) ΔV=
I=
R=4Ω

(C) ΔV=
I=
R=1Ω

Electric Potential (V)

28
20
10
-1
-2
-3

(G)

ΔV=
I=
R=2Ω

36
V

+
—

ΔV=
I=
R=3Ω

ΔV=
I=
R=6Ω

(G)
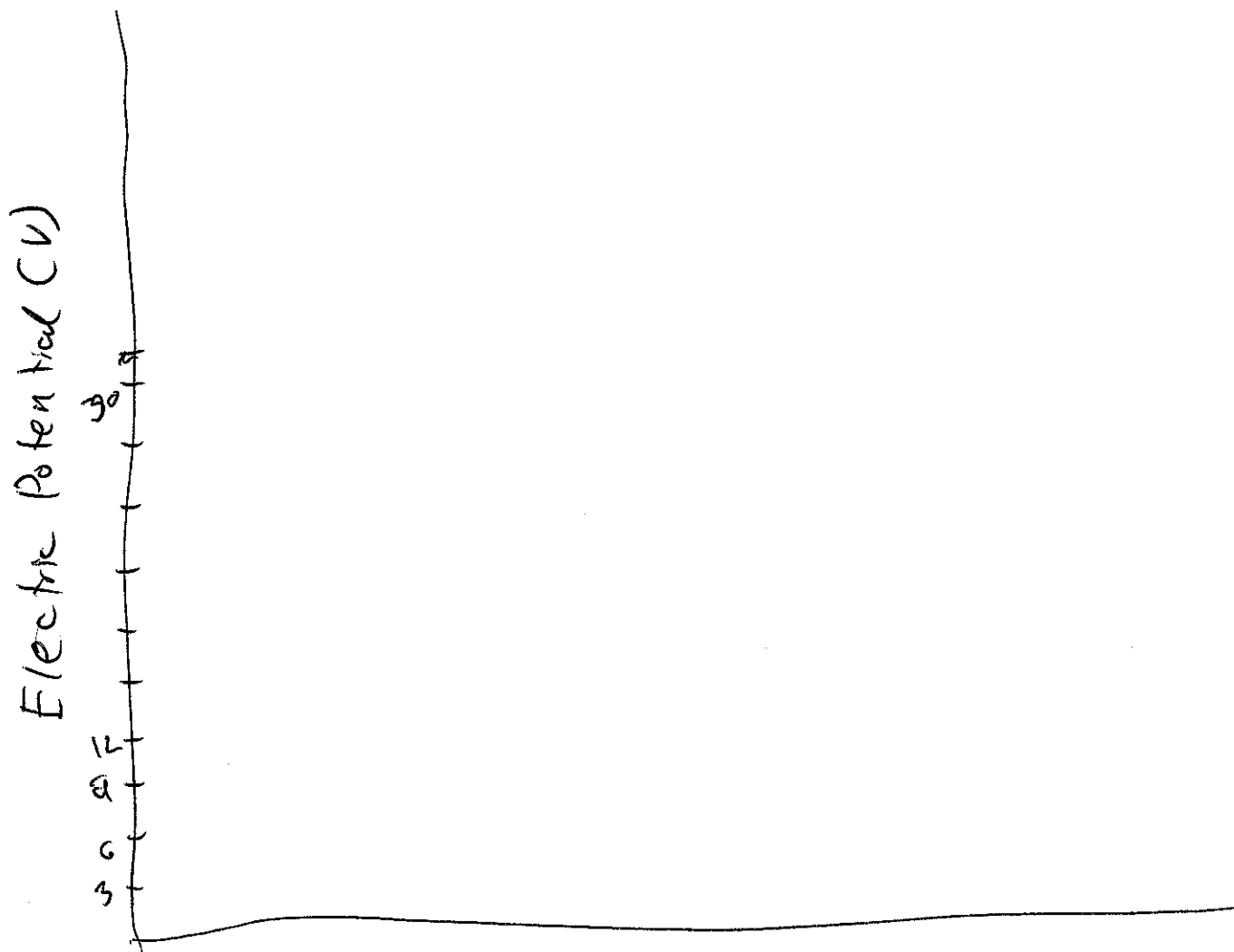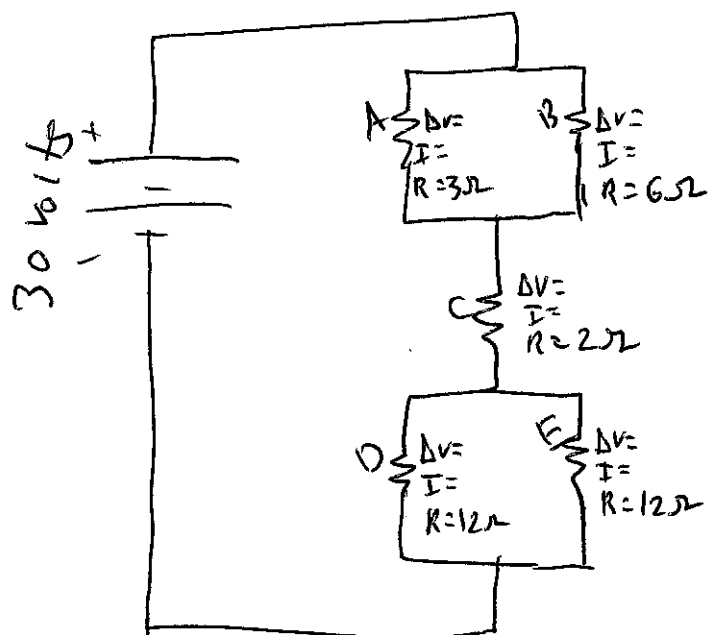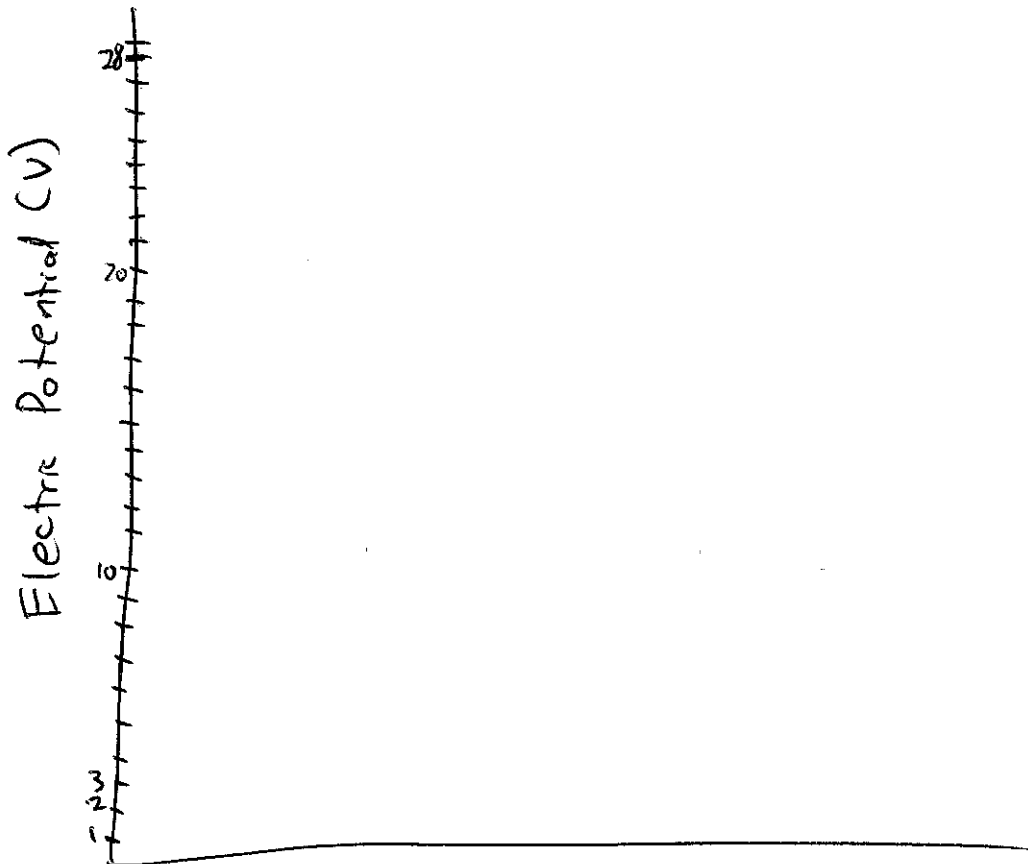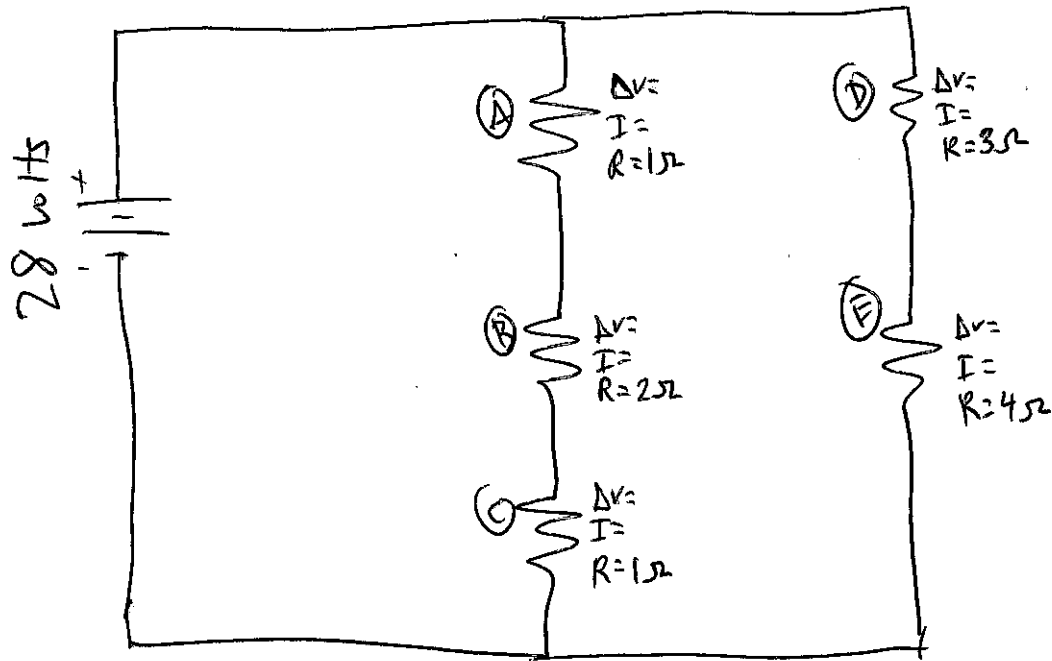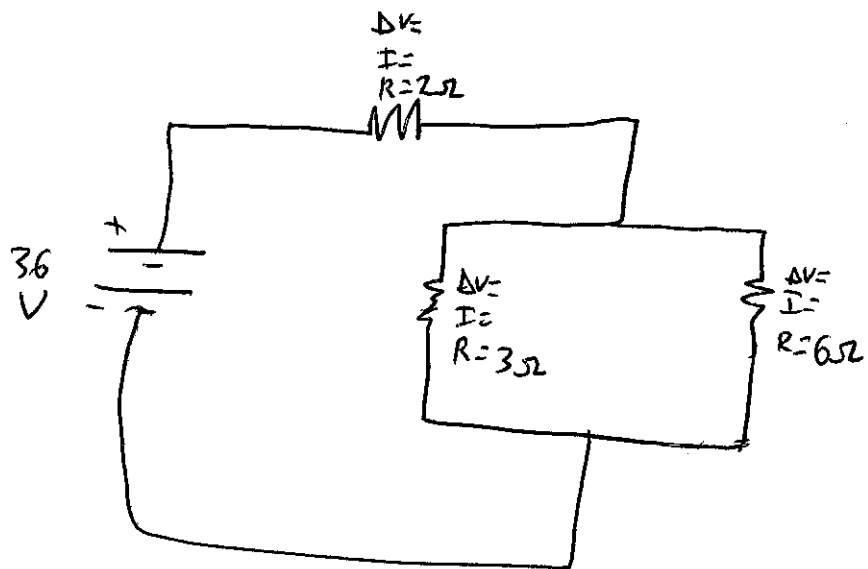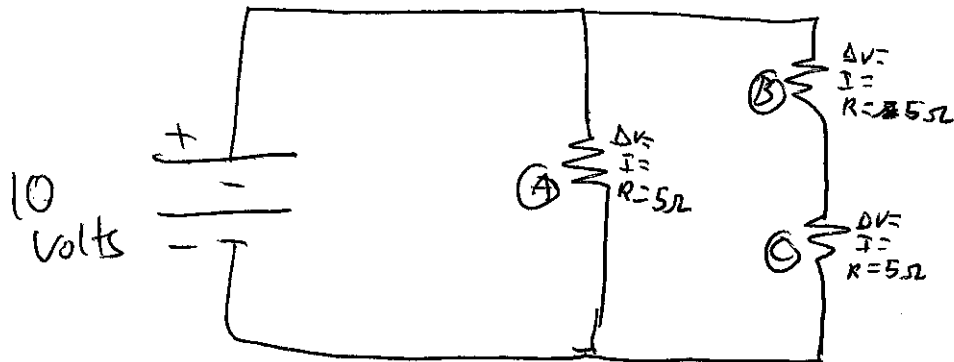
Solve for ΔV, I, and R,
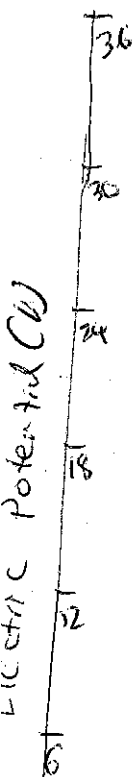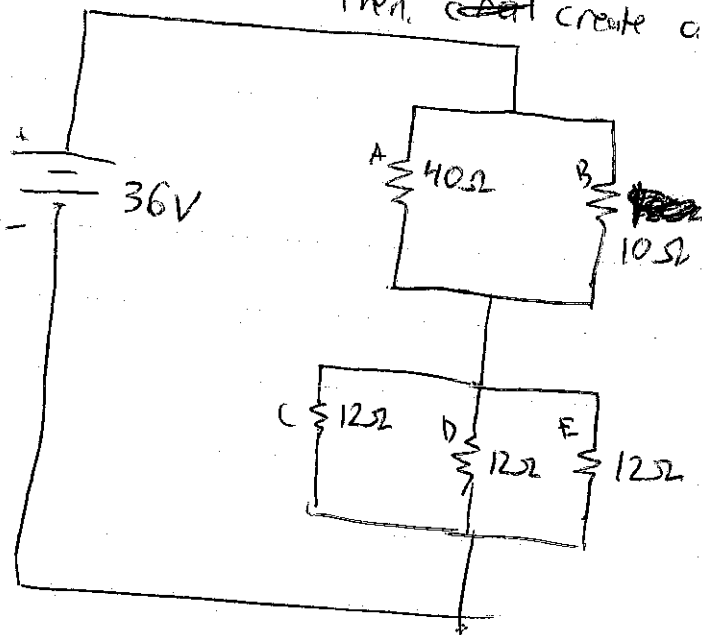then make a graph of electric potential
for the circuit.

Extra question →

· Resistors (A) + (B) have the same resistance
but a different potential difference. Why?

· Resistors (B) + (C) have the same resistance
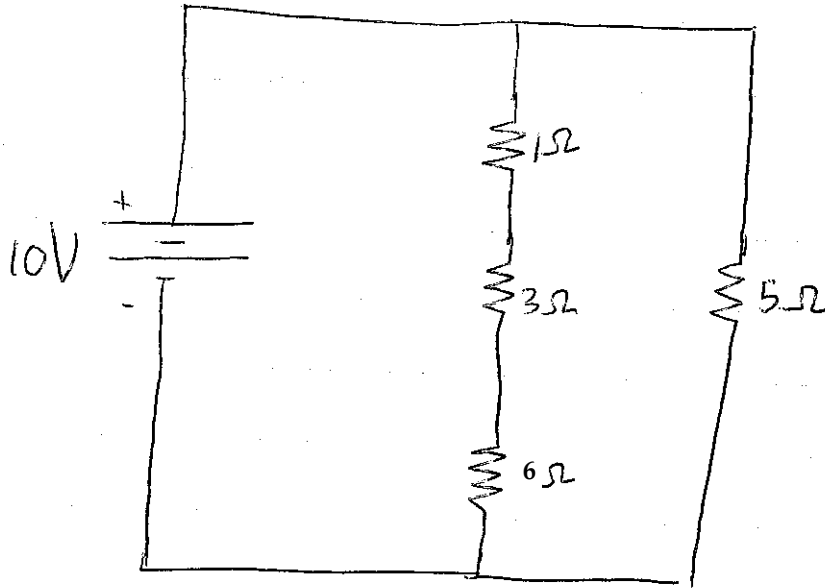and also the same potential difference. Why?

(G.T) Draw an equivalent circuit to the circuit below
Use it to find the current and potential differences
of each resistor.
Then, create a graph of electric potential for
the circuit. Label each resistor
and the current on each
segment

36V

A ⊰ 40Ω   B ⊰ 10Ω

C ⊰ 12Ω   D ⊰ 12Ω   E ⊰ 12Ω

Electric Potential (V)

36
30
24
18
12
6

G.2

10V battery (+ / −)

1Ω

3Ω   5Ω

6Ω

Draw on
equivlent
Circuit:

Electric Potential (V)

10
a
8
7
6
5
4
3
2
1