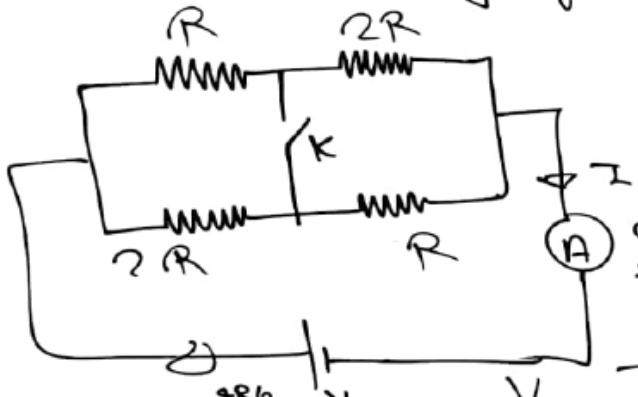
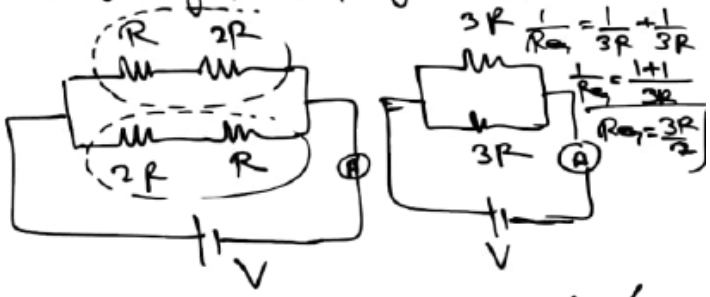
Q1: How will the reading of ammeter change if the key K is closed.



ammeter

$\Rightarrow$



$\frac{1}{R_{eq}} = \frac{1}{3R} + \frac{1}{3R}$

$\frac{1}{R_{eq}} = \frac{1+1}{3R}$

$R_{eq} = \frac{3R}{2}$

$R_{eq} = \frac{R_1 R_2}{R_1 + R_2} = \frac{3R \times 3R}{3R + 3R} = \frac{3R}{2}$

(a) increases

(b) Decrease

(c) Remains same

(d) Information insufficient

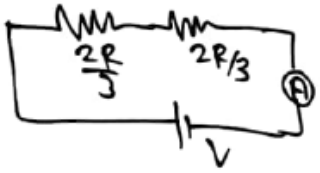
$I' = \frac{V}{4R/3}$

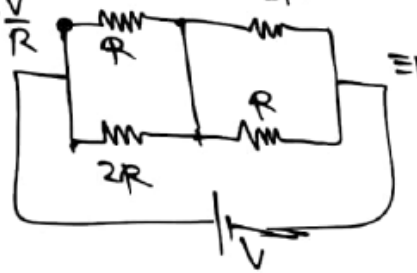
$I = \frac{V}{\frac{3R}{2}} = \frac{2V}{3R}$

$I' = \frac{3V}{4R}$

$I' = 0.75\frac{V}{R}$

When key is closed





$\equiv$

$\frac{R \times 2R}{3R} = \frac{2R}{3}$

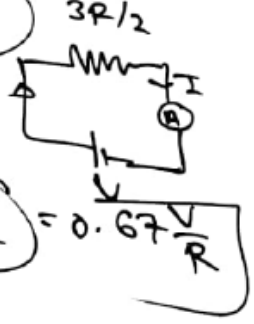
$\frac{2R \times R}{3R}$

$2R$

$I = \frac{V}{\frac{3R}{2}}$

$R_{eq} = \frac{3R}{2}$

$\frac{3R}{2}$



$I = \frac{2V}{3R} = 0.67\frac{V}{R}$

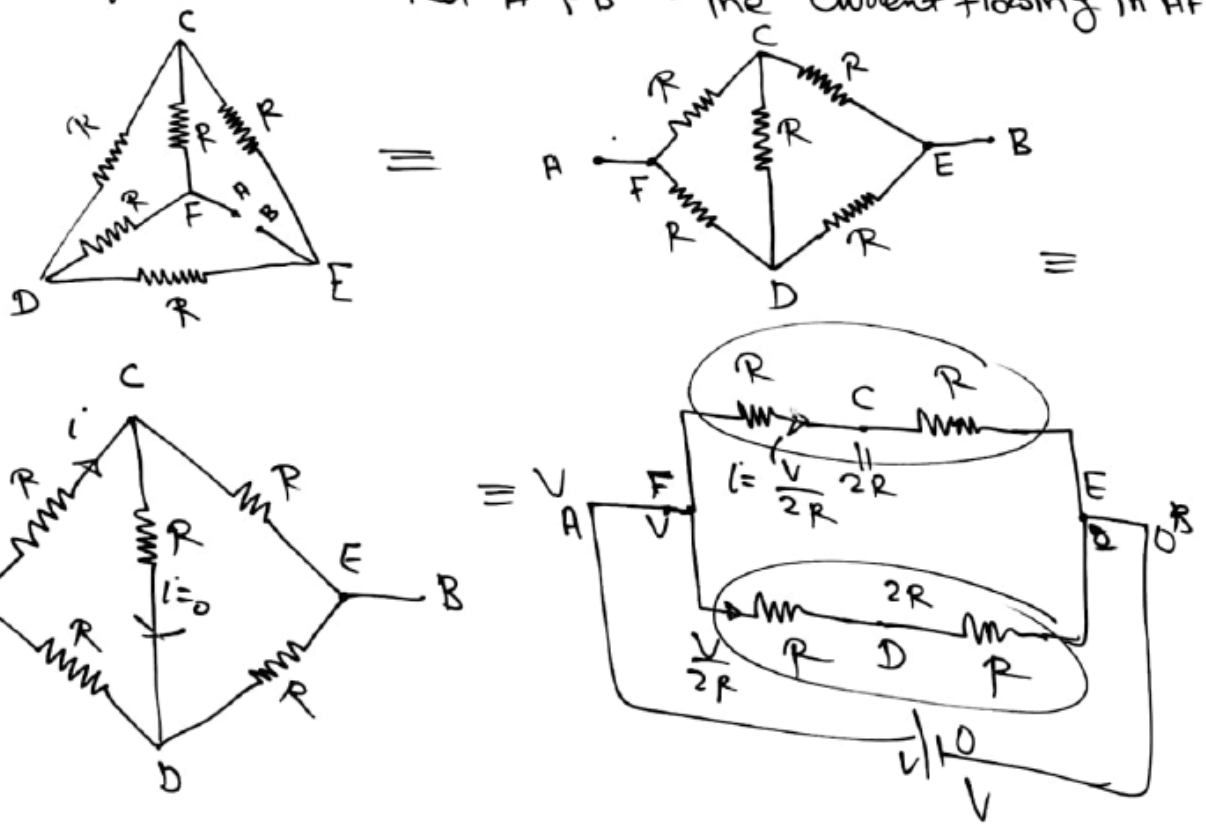
32) Five equal resistance each of resistance R are connected as shown in figure. A battery of voltage V is connected A & B. The current flowing in AFCEB will be.

(a) $\frac{V}{R}$

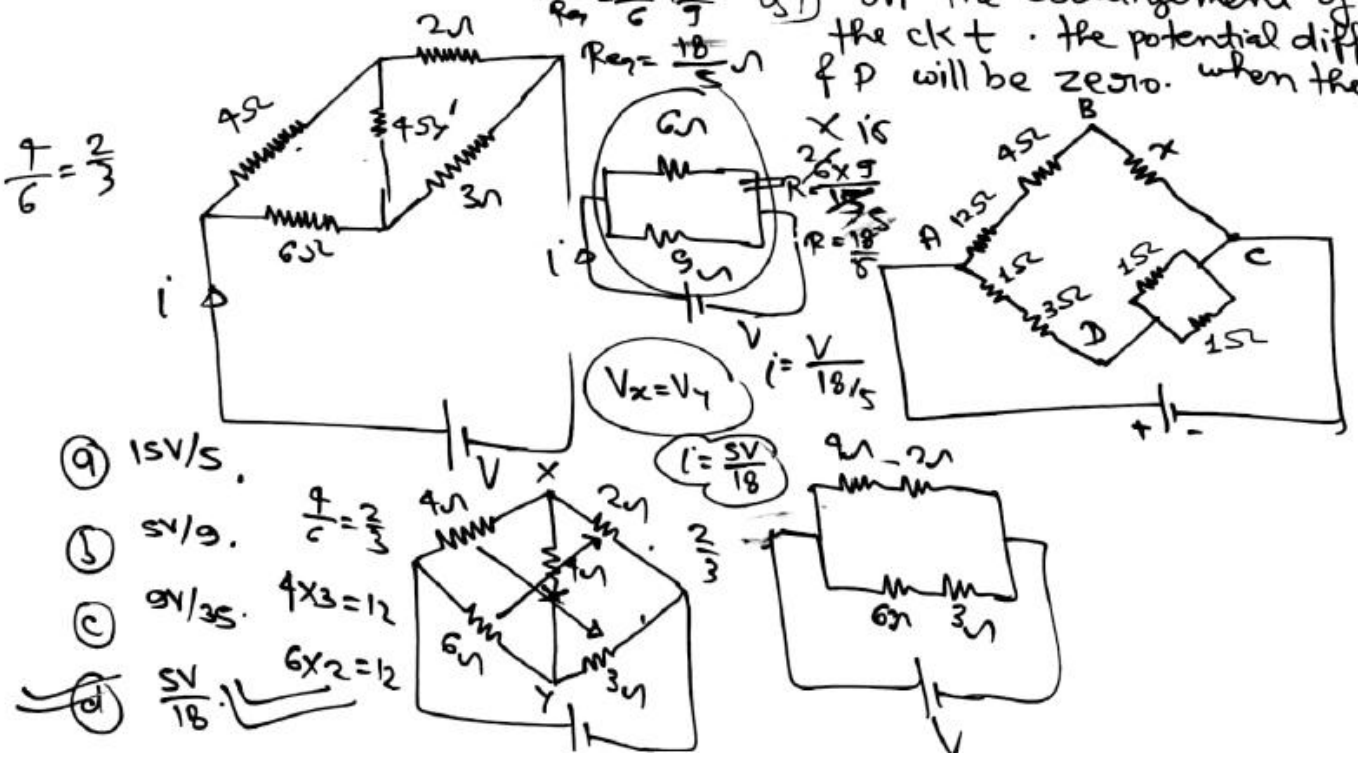
(b) $V/2R$ ✓

(c) $\frac{2V}{R}$

(d) $\frac{3V}{R}$



Q3) For the Network shown in figure the value of the current i is.



$\frac{1}{R_{eq}} = \frac{1}{6} + \frac{1}{9}$

$R_{eq} = \frac{18}{5}\Omega$

$\frac{4}{6} = \frac{2}{3}$

$\frac{4}{6} = \frac{2}{3}$

$4 \times 3 = 12$

$6 \times 2 = 12$

$V_x = V_y$

$i = \frac{V}{18/5}$

$i = \frac{5V}{18}$

(a) $15V/5$.

(b) $5V/9$.

(c) $9V/35$.

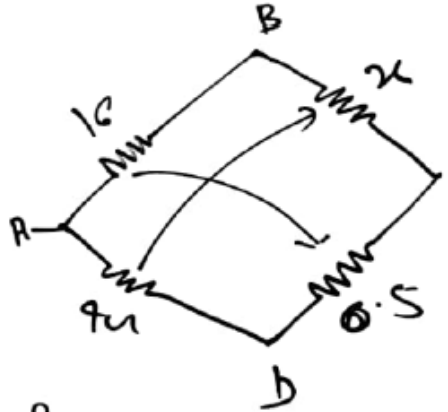
(d) $\frac{5V}{18}$.

Q4) In the arrangement of resistance shown in the ckt. the potential difference b/w points B & D will be zero. when the unknown resistance X is

(a) 4Ω (b) 3Ω

(c) 2Ω (d) 1Ω

(#)



If $V_B = V_D$

B.W.S.B

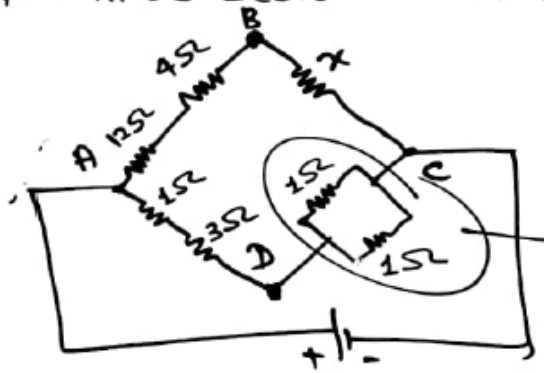
$\frac{16}{4} = \frac{x}{0.5}$

$16 \times 0.5 = 4x$

$4 \times 0.5 = x$

$x = 2.0\Omega$ $\quad x = 2\Omega$

Q4) In the arrangement of resistance shown in the ckt. the potential difference b/w points B & D will be zero. when the unknow resistance



(a) 9Ω (b) 3Ω

(c) 2Ω (d) 1Ω

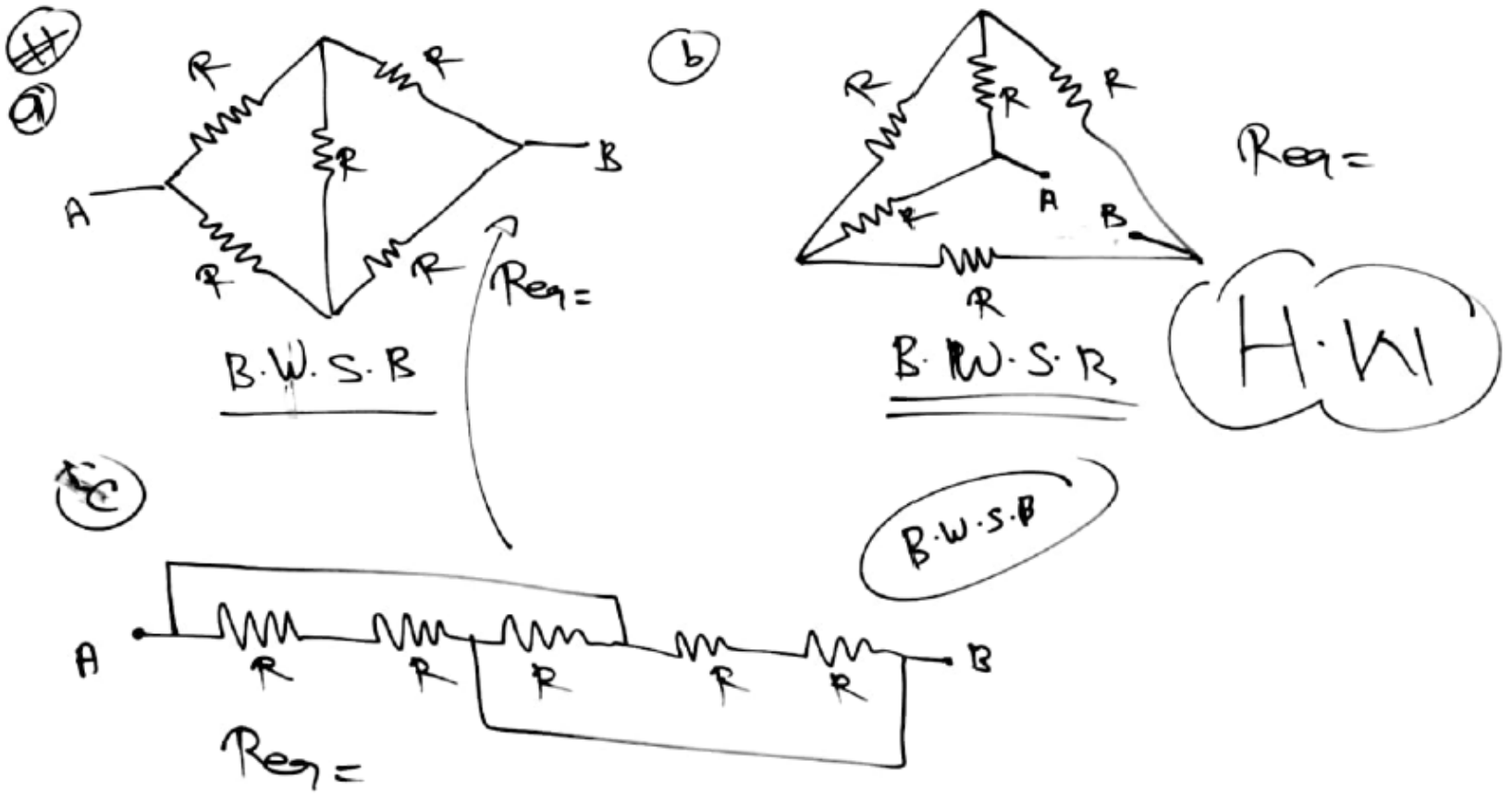
$V_B - V_D = 0$ $\quad V_B = V_D$

$\frac{1}{R_{eq}} = \frac{1}{1} + \frac{1}{1}$

$\frac{1}{R_{eq}} = 1+1$

$\frac{1}{R_{eq}} = 2$ $\quad R_{eq} = \frac{1}{2} = 0.5$

$R_{eq} = 0.5$


(a)
R
R
R
R
R
A
B
Req =
B.W.S.B
(b)
R
R
R
R
A
B
Req =
B.W.S.B
H.W
(c)
B.W.S.B
A
R
R
R
R
R
B
Req =