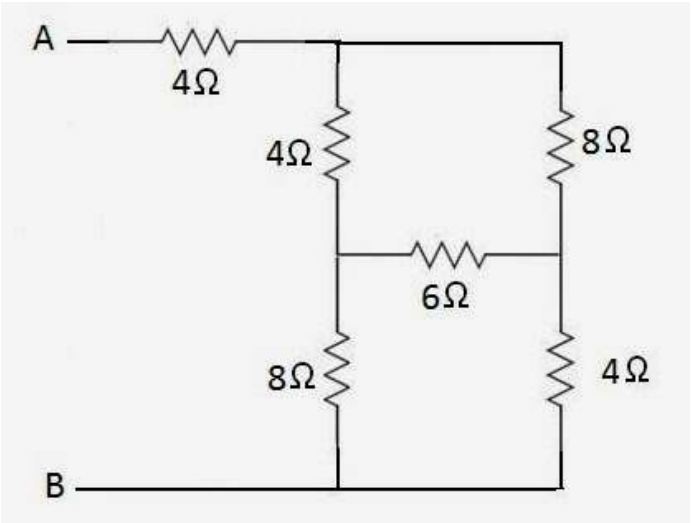
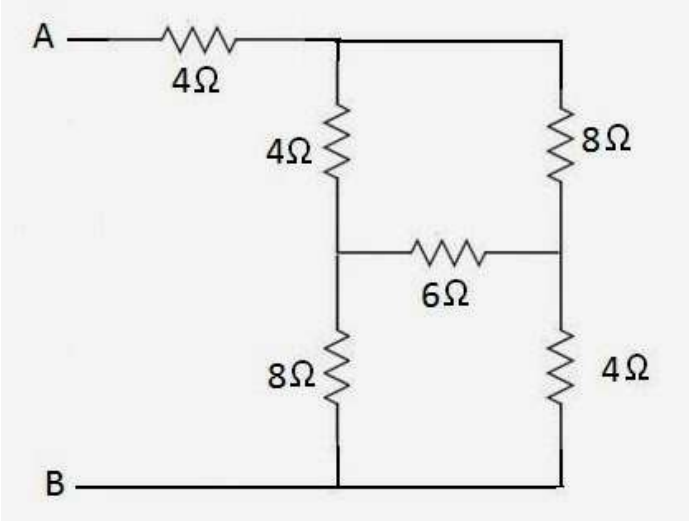
- **Ques:- Find the equivalent resistance between A & B in the given network.**

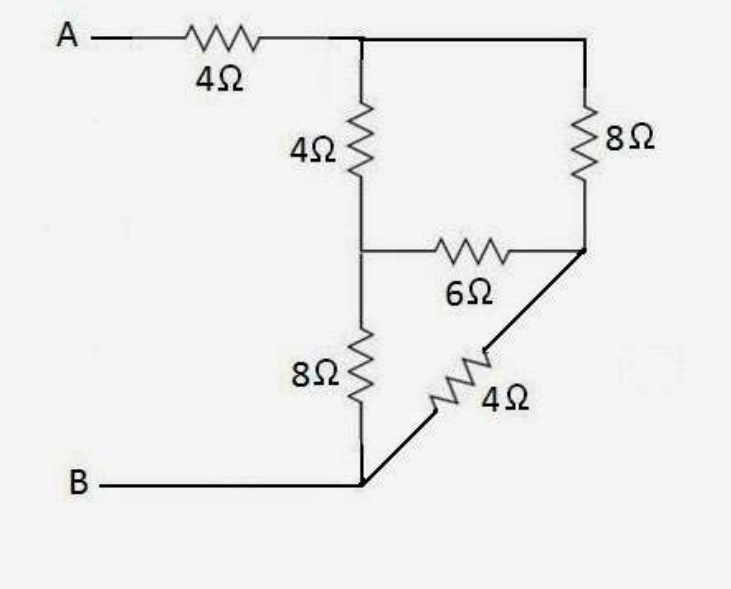

A
4Ω
4Ω
8Ω
6Ω
8Ω
4Ω
B

- **For the given network, we can easily determine the value of equivalent resistance i.e, R_{AB} through Star-Delta conversion.**

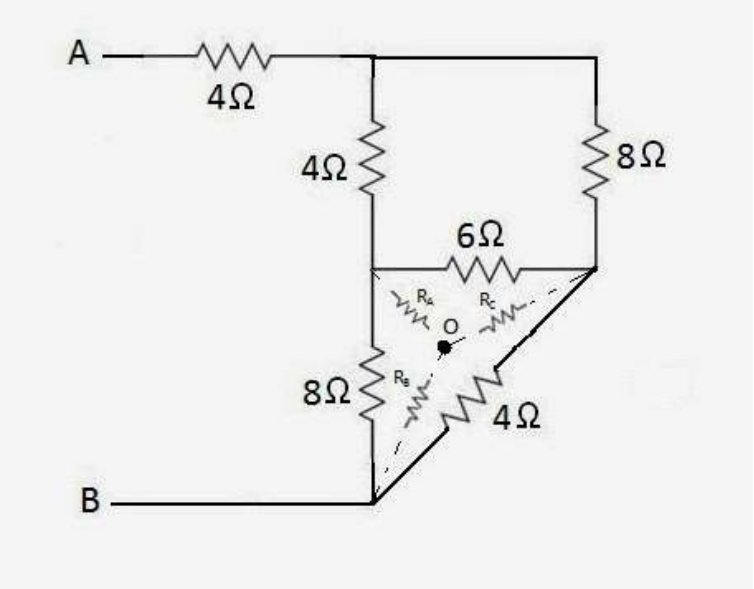
We have



Above network can also be represent as below:-



Now, I am going to solved this network by using delta to star conversion as shown in the figure given below:-



For the value of new star connected resistance are finding through direct formula of delta to star conversion,as shown below

$$R_A = \frac{8 \cdot 6}{8 + 6 + 4}$$

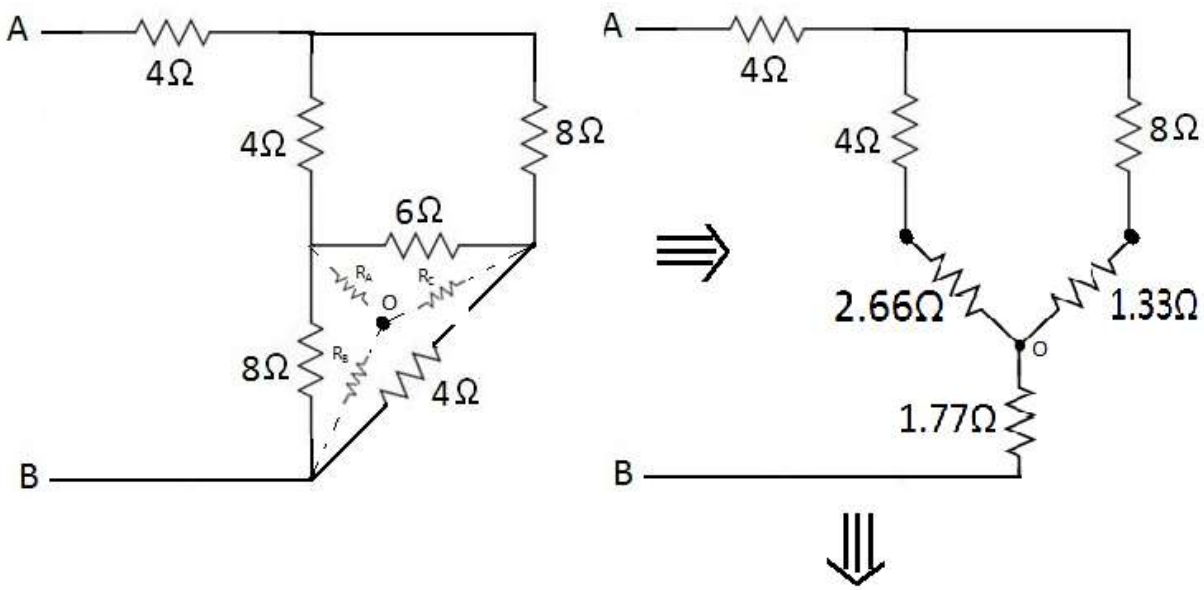
$$R_A = 2.66\Omega$$

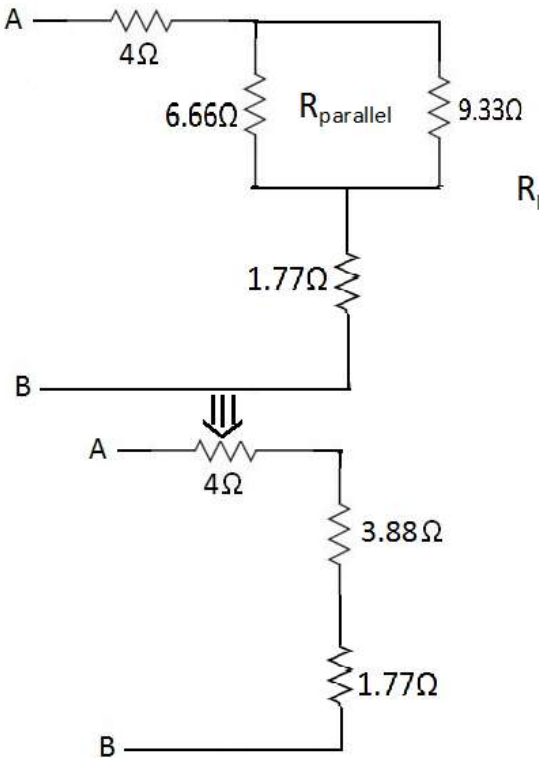
$$R_B = \frac{8 \cdot 4}{8 + 6 + 4}$$

$$R_B = 1.77\Omega$$

$$R_C = \frac{6 \cdot 4}{8 + 6 + 4}$$

$$R_C = 1.33\Omega$$


A
4Ω
4Ω
8Ω
6Ω
R_A
R_C
O
8Ω
R_B
4Ω
B
A
4Ω
4Ω
8Ω
2.66Ω
1.33Ω
O
1.77Ω
B



$$R_{parallel} = \frac{6.66 \times 9.33}{6.66+9.33} = 3.88\,\Omega$$

- so, R_{AB} or $R_{equivalent} = R_1 + R_2 + R_3 = 4\Omega + 3.88\Omega + 1.77\Omega =$ 9.65Ω Answer