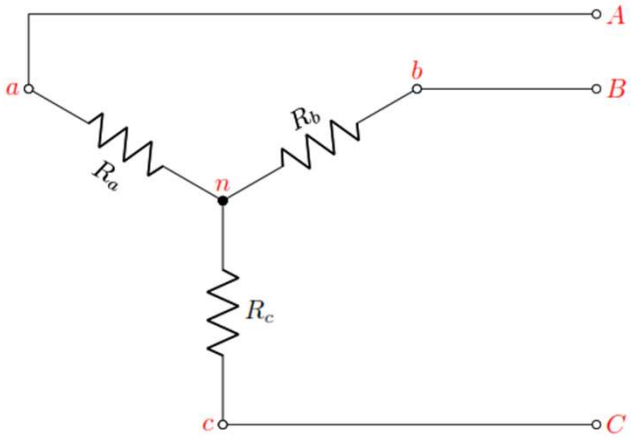
STAR DELTA TRANSFORMATION

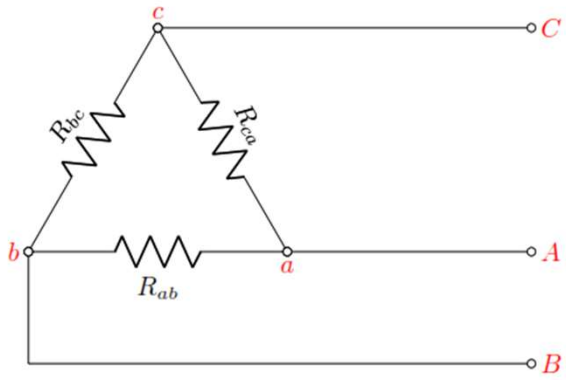
For Star to Delta transformation:

$$R_{AB} = R_a + R_b + \frac{R_a R_b}{R_c}$$
$$R_{BC} = R_b + R_c + \frac{R_b R_c}{R_a}$$
$$R_{CA} = R_c + R_a + \frac{R_c R_a}{R_b}$$



For Delta to Star transformation:

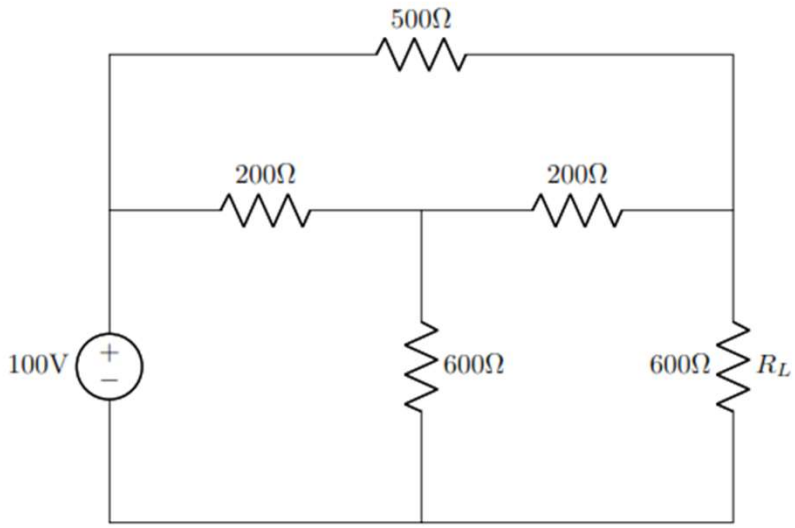
$$R_A = \frac{R_{ab} R_{ca}}{R_{ab} + R_{bc} + R_{ca}}$$
$$R_B = \frac{R_{ab} R_{bc}}{R_{ab} + R_{bc} + R_{ca}}$$
$$R_C = \frac{R_{bc} R_{ca}}{R_{ab} + R_{bc} + R_{ca}}$$



STAR DELTA TRANSFORMATION

Problem-14:

Determine the current flowing through the resistance $R_L = 600\ \Omega$ using the star-delta transformation concept.



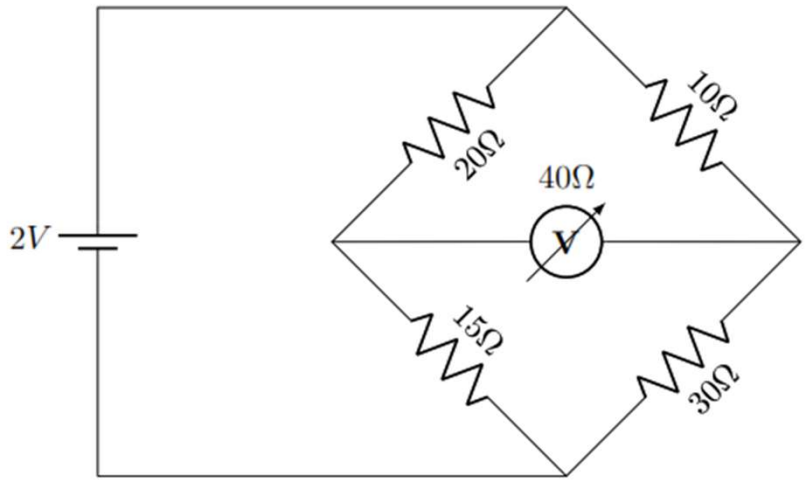
Ans:

$$I_{600\Omega} = 0.10584\ A$$

STAR DELTA TRANSFORMATION

Problem-15:

Determine the galvanometer current in the wheastone bridge using the star-delta transformation concept.



Ans:

$$I_{gal} = 11.4649\ mA$$