

Electrical Circuit (1)

Introduction (week2 class2)

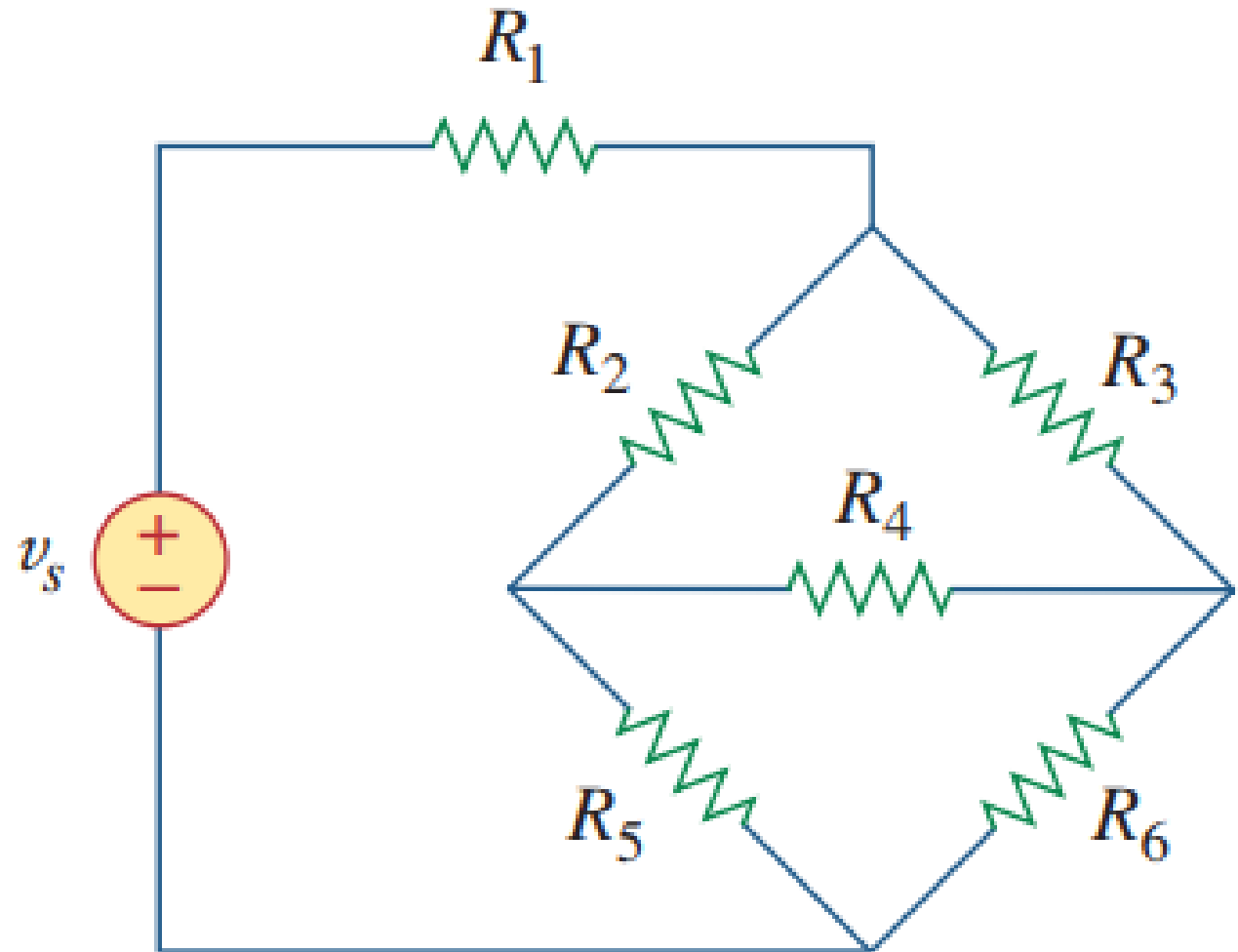
Dr. Akram Al-Mahrouk

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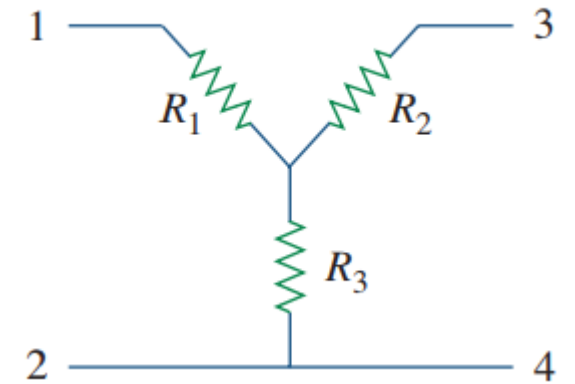
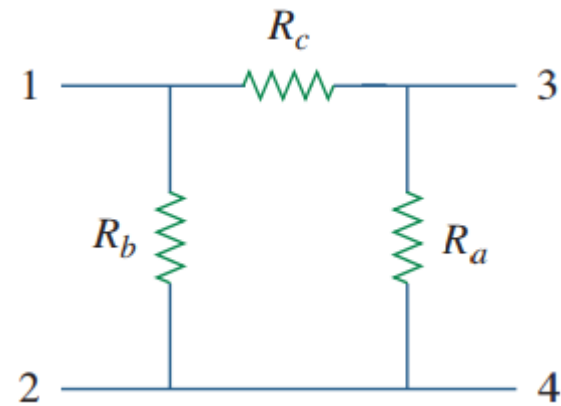
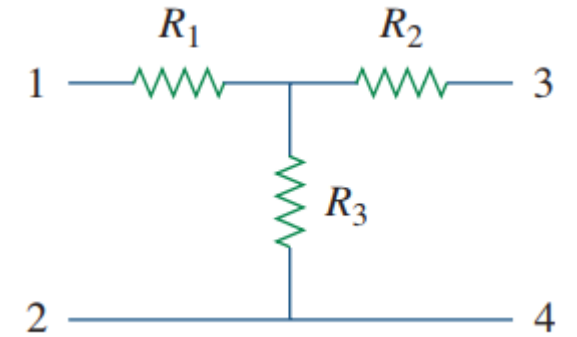
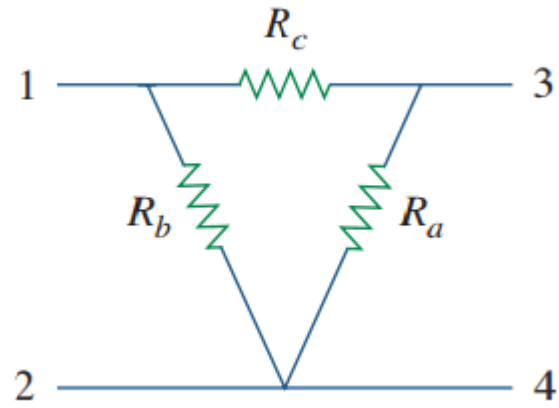
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† Wye-Delta Transformations



† Wye-Delta Transformations

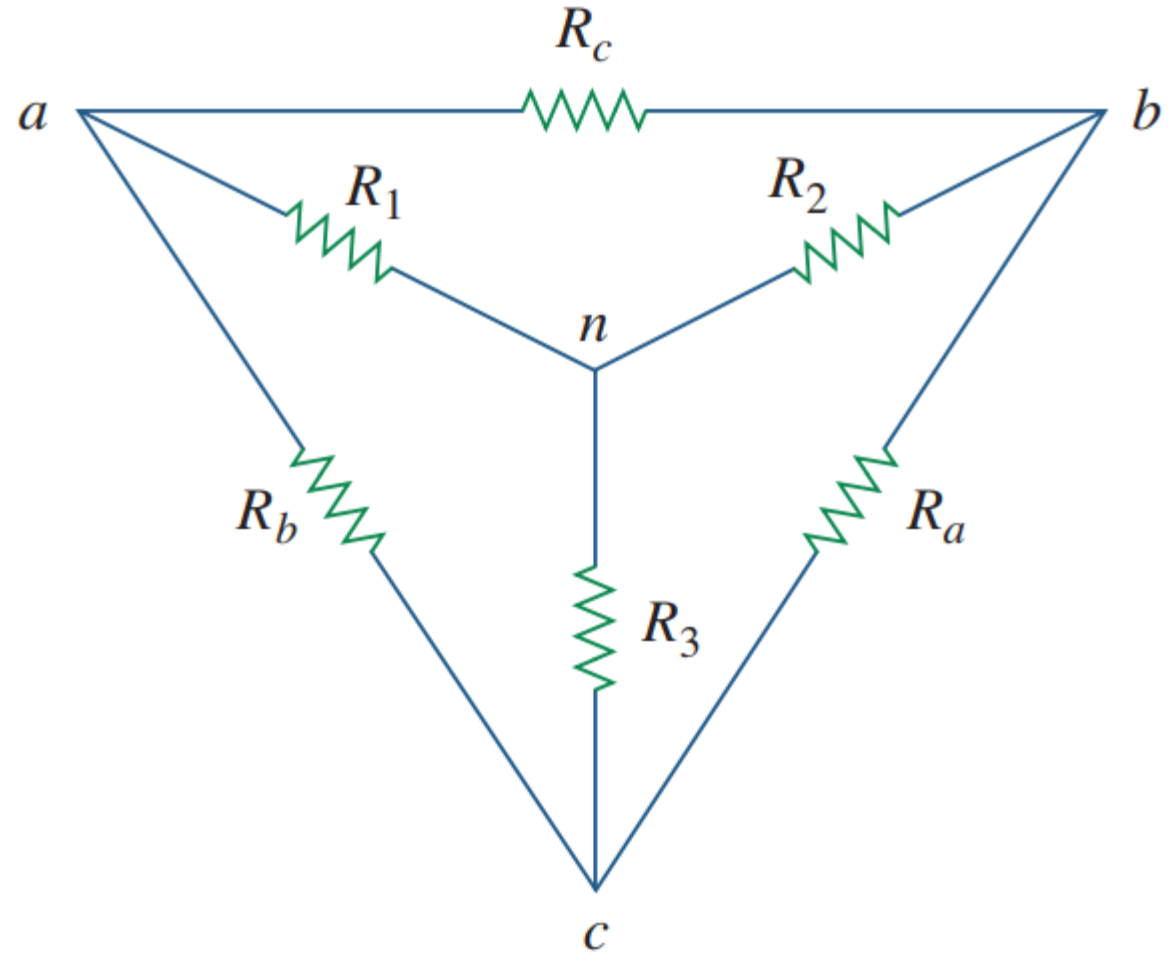


† Wye-Delta Transformations

$$R_1 = \frac{R_b R_c}{R_a + R_b + R_c}$$

$$R_2 = \frac{R_c R_a}{R_a + R_b + R_c}$$

$$R_3 = \frac{R_a R_b}{R_a + R_b + R_c}$$

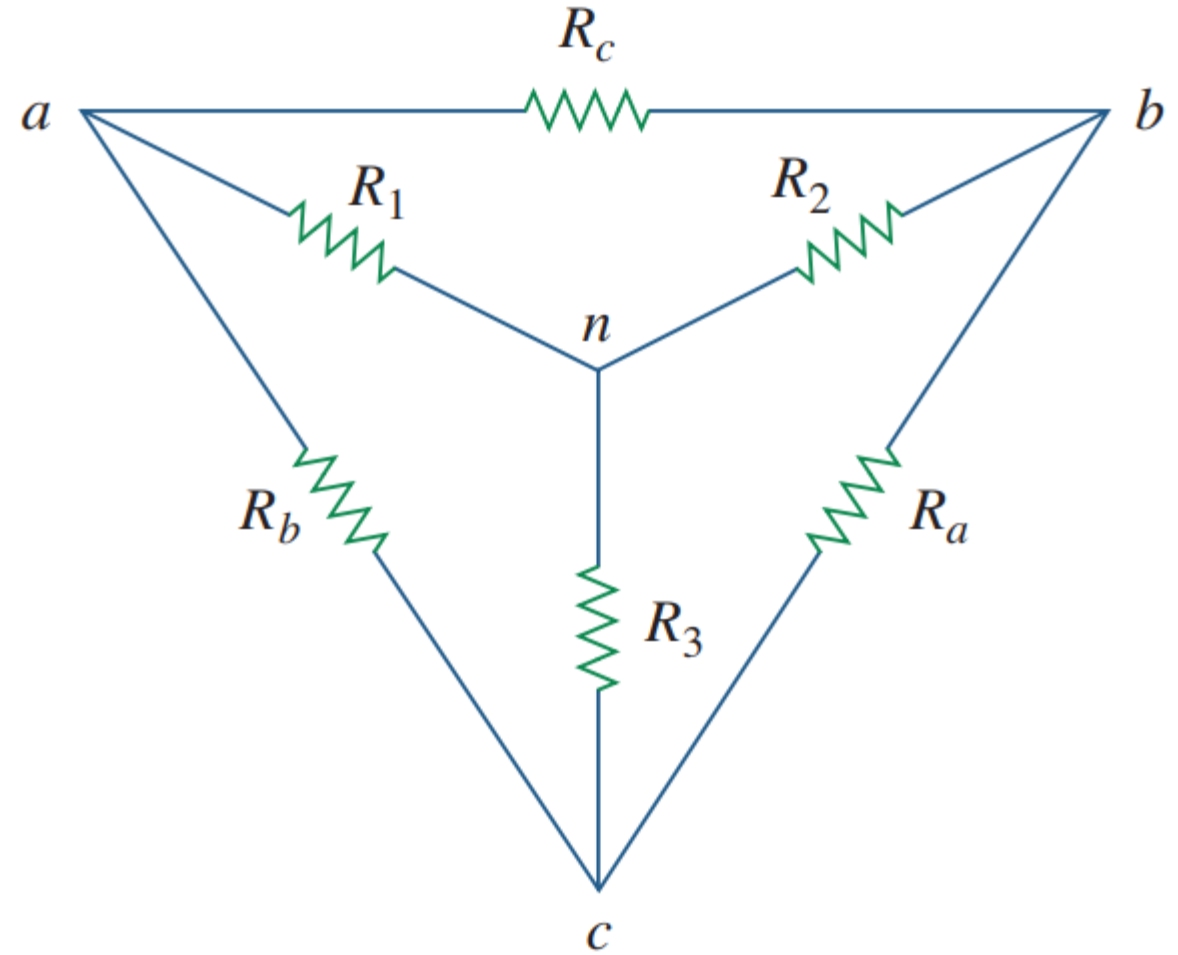


† Wye-Delta Transformations

$$R_a = \frac{R_1 R_2 + R_2 R_3 + R_3 R_1}{R_1}$$

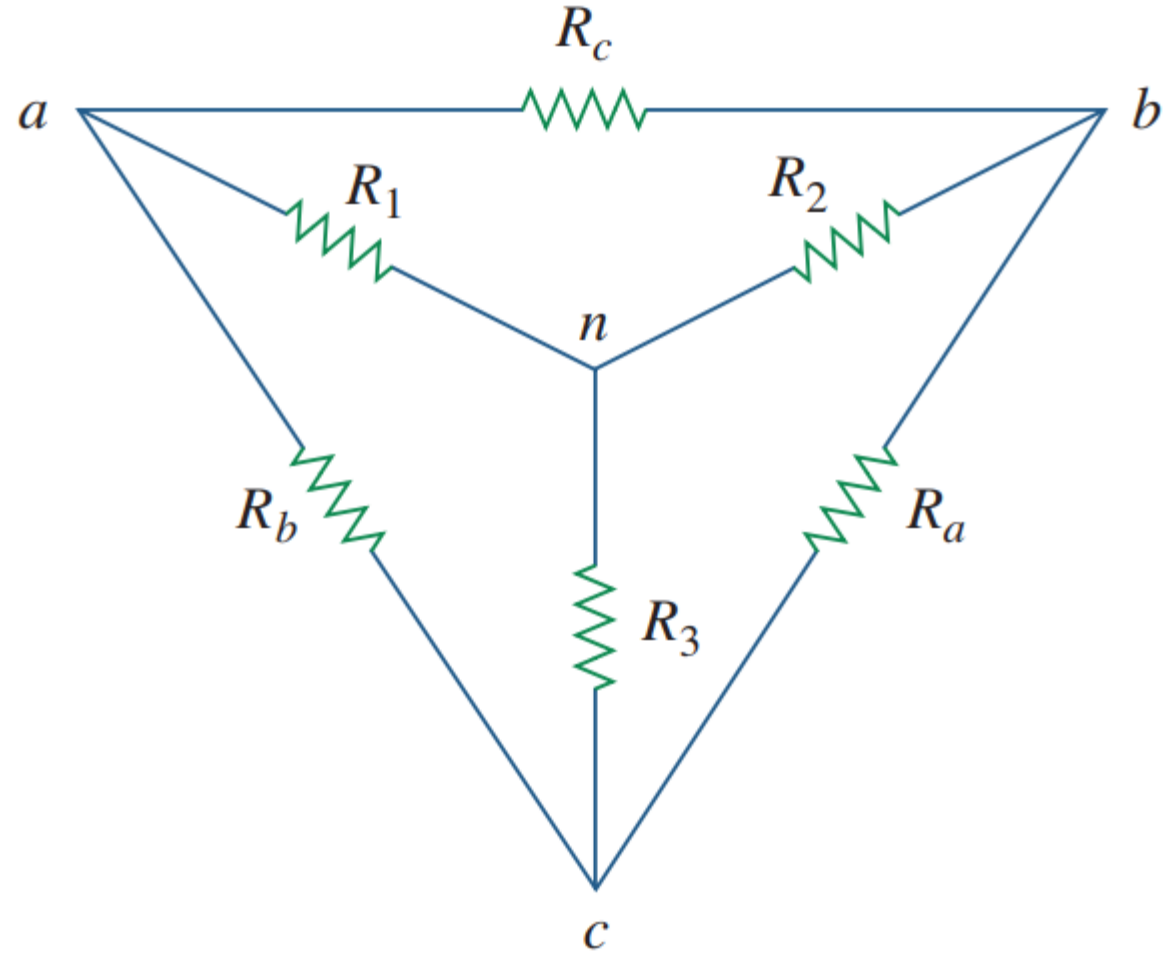
$$R_b = \frac{R_1 R_2 + R_2 R_3 + R_3 R_1}{R_2}$$

$$R_c = \frac{R_1 R_2 + R_2 R_3 + R_3 R_1}{R_3}$$

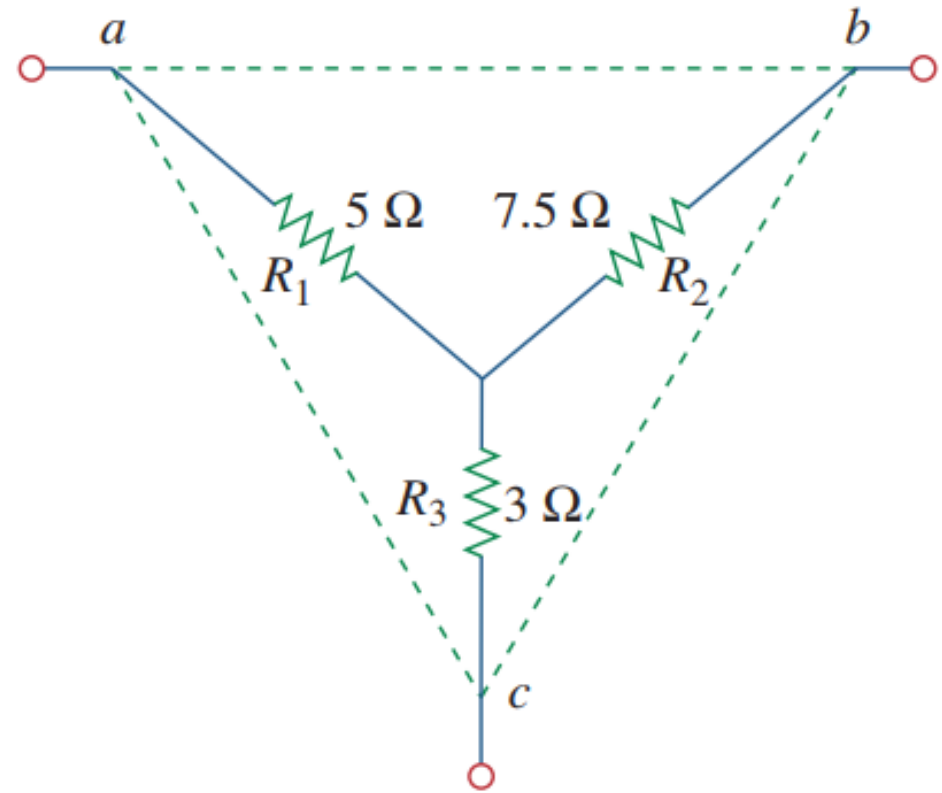
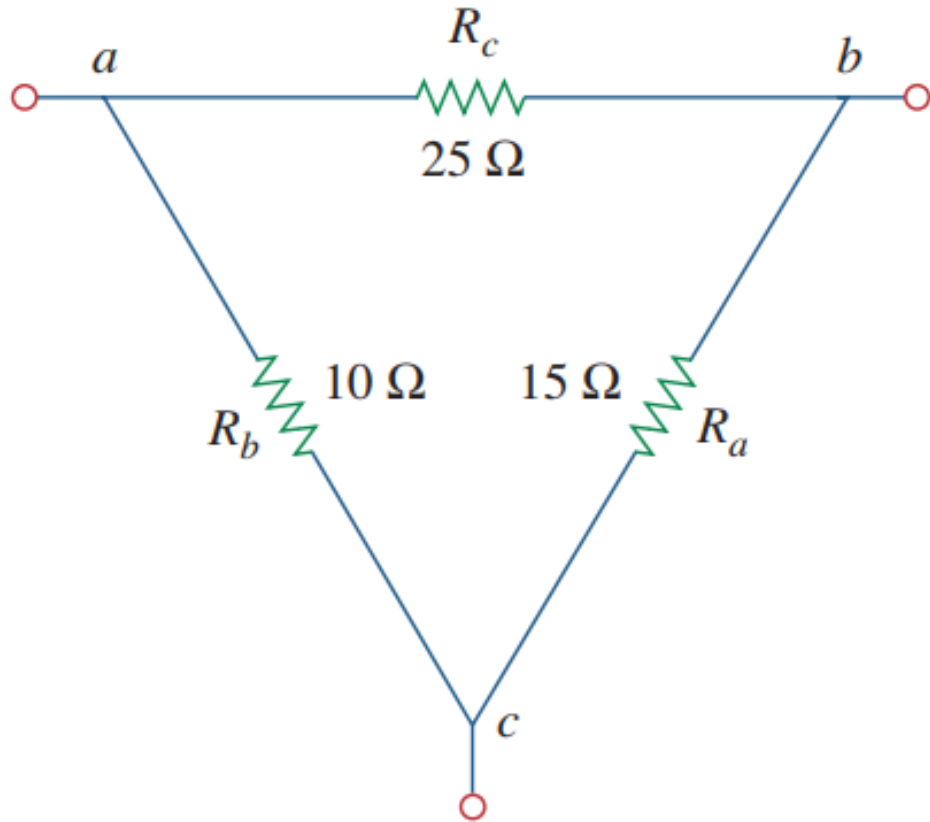


† Wye-Delta Transformations

$$R_Y = \frac{R_\Delta}{3} \quad \text{or} \quad R_\Delta = 3R_Y$$



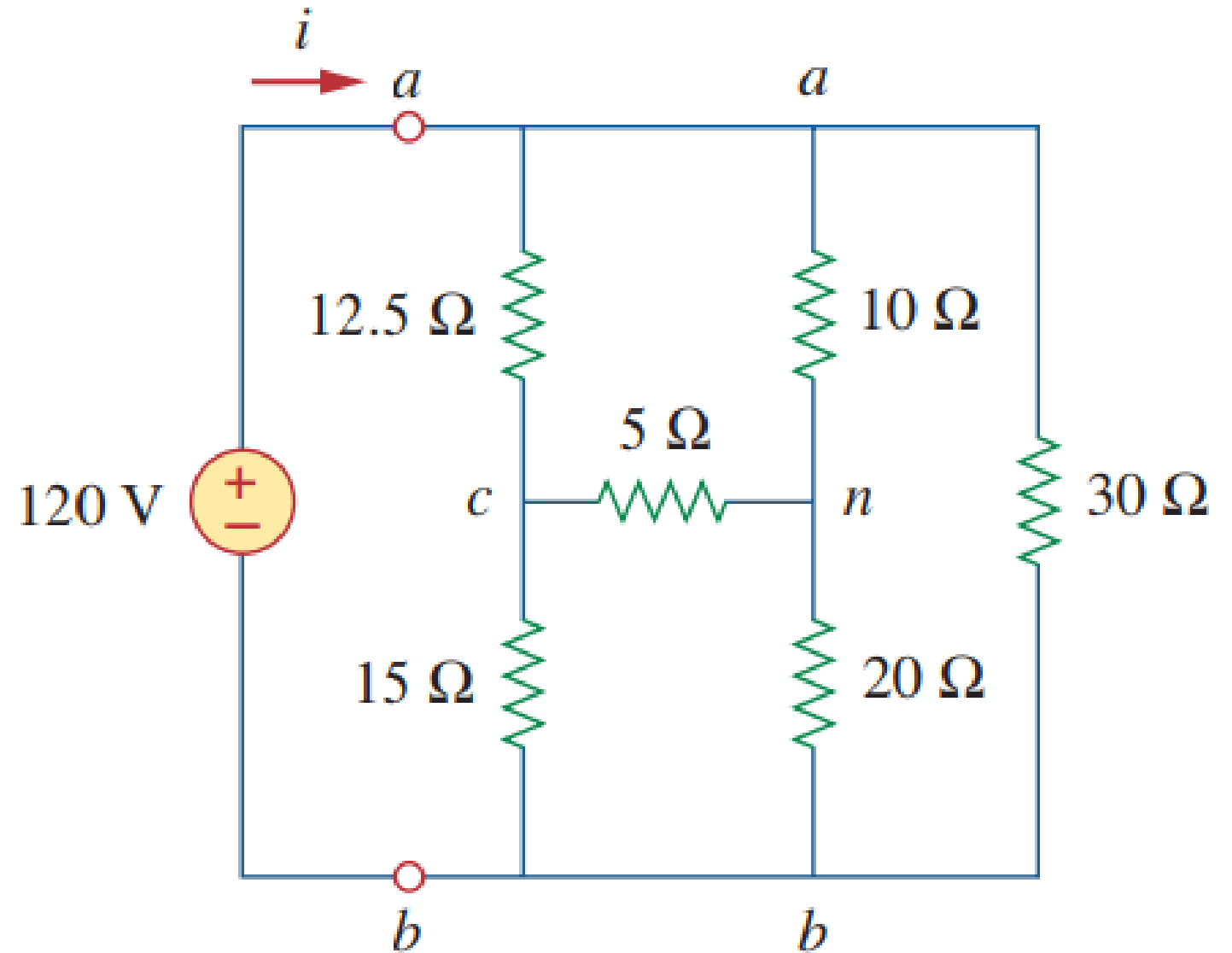
† Wye-Delta Transformations



† Wye-Delta Transformations

Find R_{ab}

Find all deltas and stars



Quiz (Moodle) Find R_{ab}

