



Assuming that 10 amps flows from phase a to ground.

Transformer Currents

Transformer Ratio = Tr

$$\text{Tr} := \frac{12.47\text{kV}}{4.16\text{kV}} \quad \text{Tr} = 2.998$$

$$I_a := 10 \angle 0$$

$$I_b := 0 \angle 0$$

$$I_c := 0 \angle 0$$

$$I_1 := \frac{I_a}{\text{Tr}}$$

$$I_2 := \frac{I_b}{\text{Tr}}$$

$$I_3 := \frac{I_c}{\text{Tr}}$$

$$I_A := I_1 - I_2$$

$$I_B := I_2 - I_3$$

$$I_C := I_3 - I_1$$

$$I_A = 3.336$$

$$I_B = 0$$

$$I_C = -3.336$$

$$|I_A| = 3.336$$

$$|I_B| = 0$$

$$|I_C| = 3.336$$