1.2 Three-phase circuits

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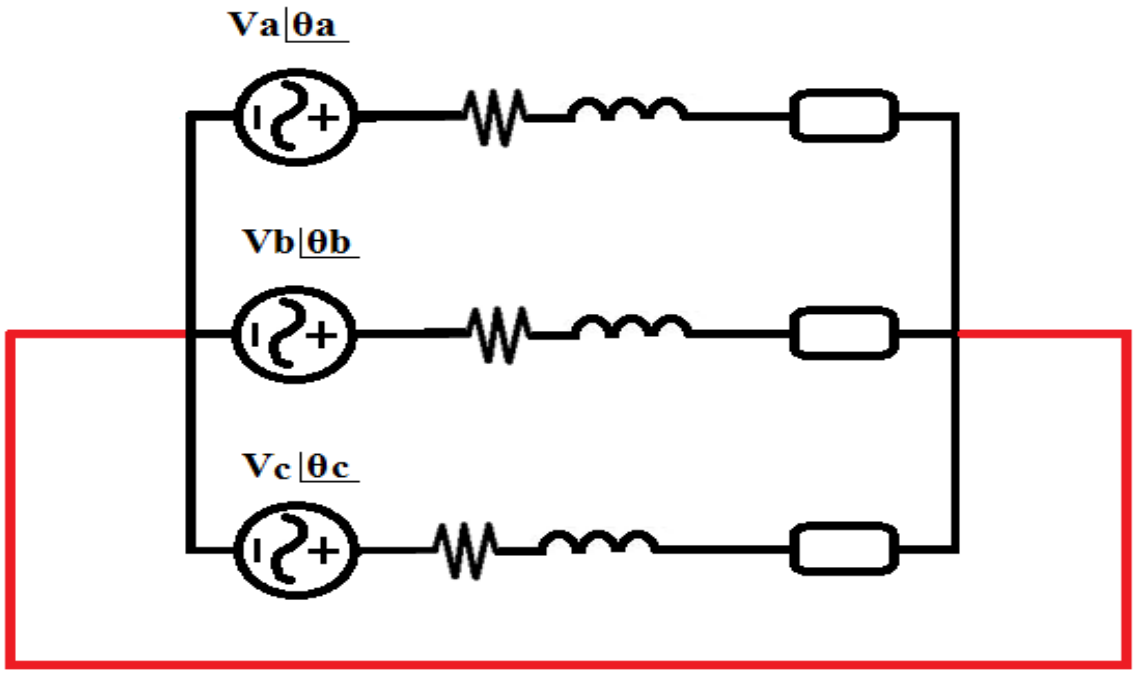
Polyphase circuits



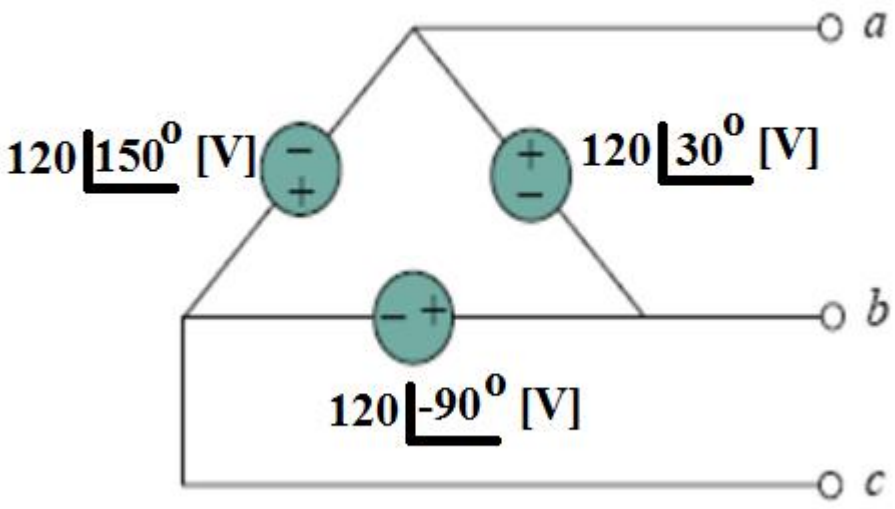
Sources

Line Conductors

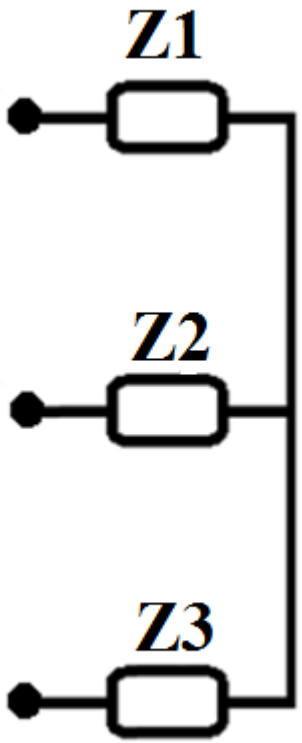
Loads

Homework

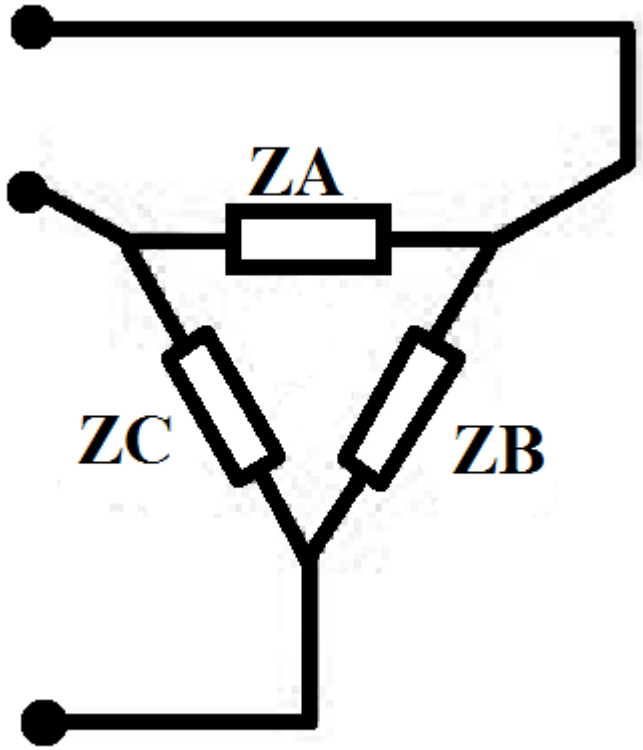
Find the values of the equivalent wye-connected sources:



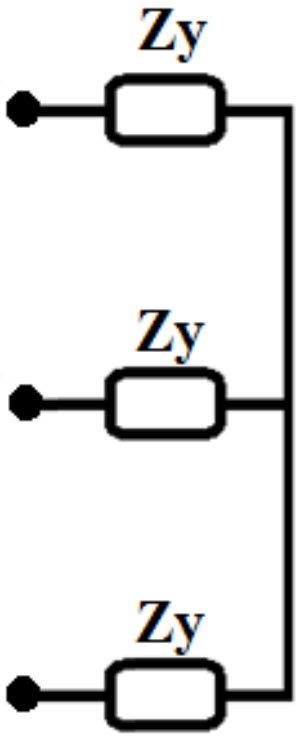
Loads



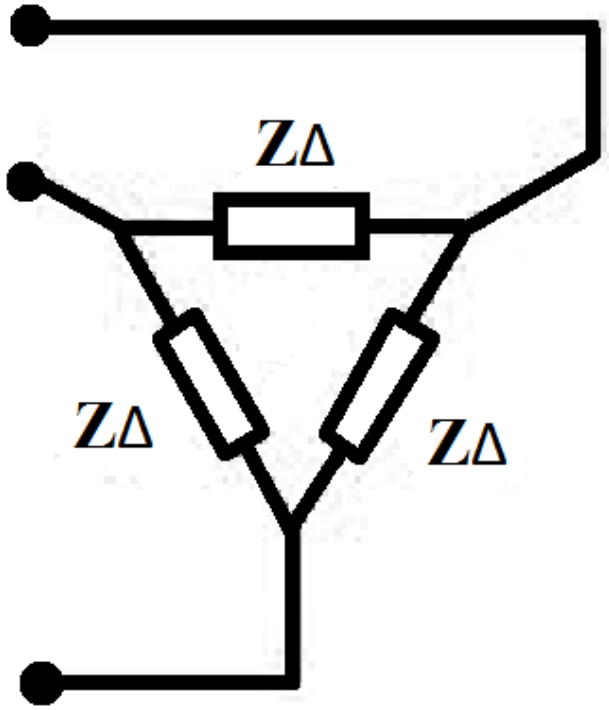
$$Z1 = \frac{ZA * ZB}{ZA + ZB + ZC}$$



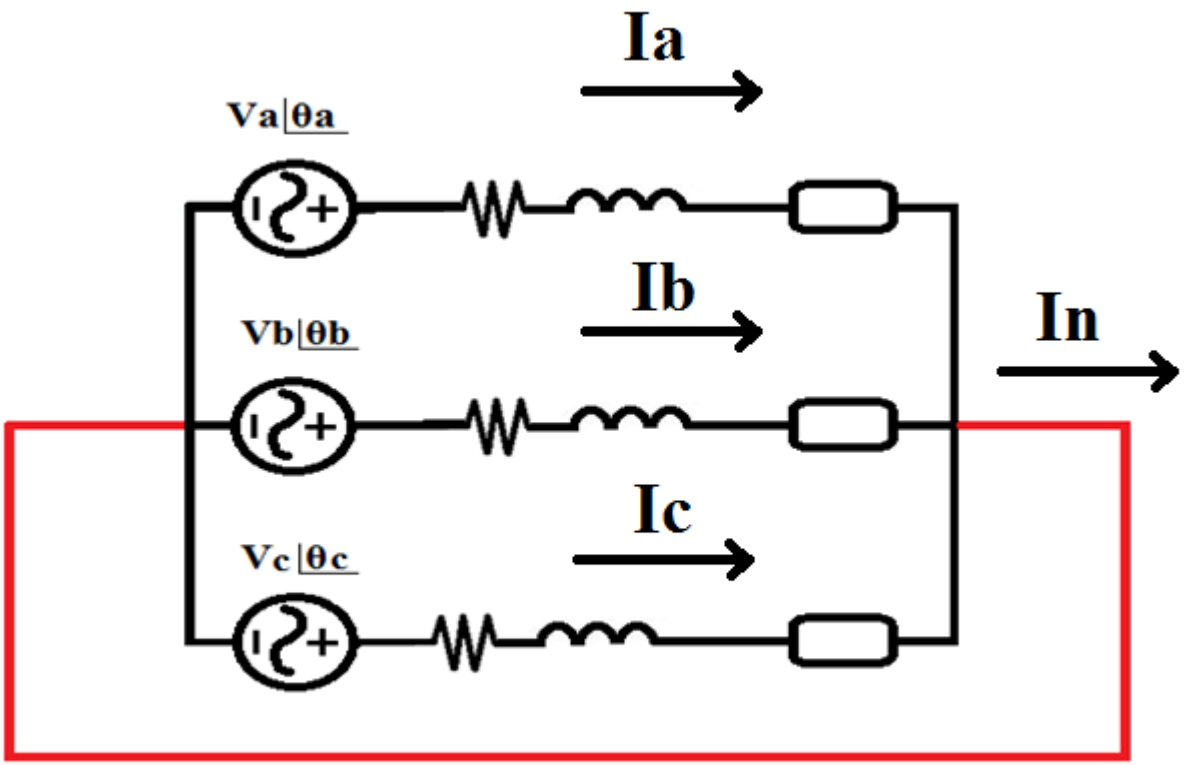
Loads



$$Zy = \frac{Z\Delta}{3}$$

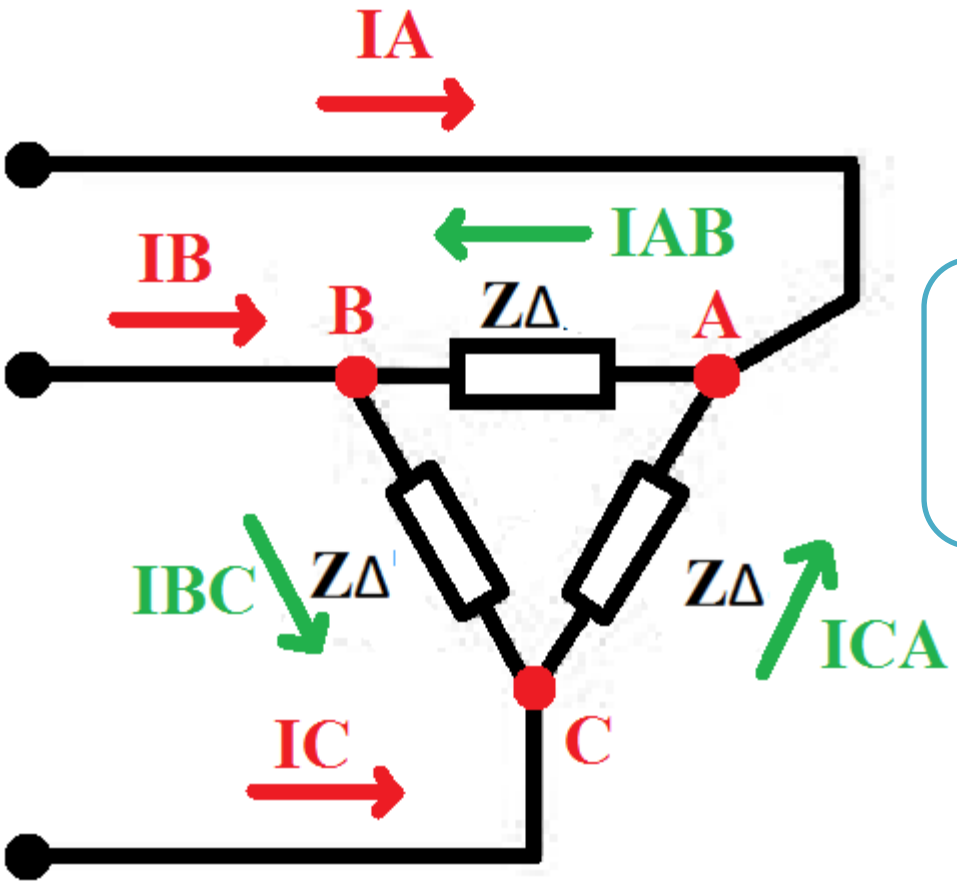


Polyphase circuits



Always (KCL) In = Ia + Ib + Ic
If the loads are unbalanced?

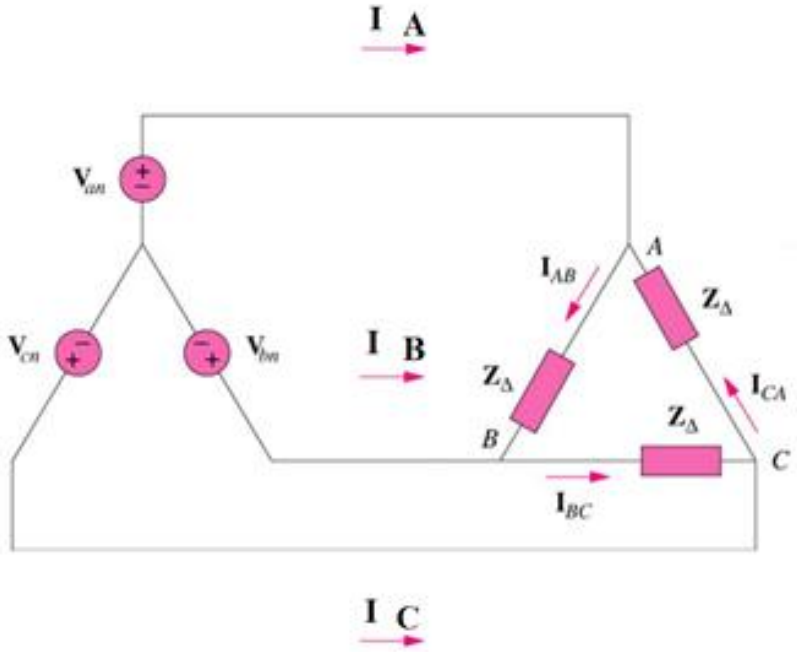
Line and phase currents



$I_L = \sqrt{3}\, I_{PH} \angle -30º$ Sec (+)

$I_L = \sqrt{3}\, I_{PH} \angle 30º$ Sec (-)

Polyphase circuits



Find IAB and IB if Vc = 20 ∟ 15º [V]

Wattmeter

An instrument for measuring the electric power.

Before class: find a video (URL) about how to use a wattmeter.

Wattmeter

An instrument for measuring the electric power.

$$WX = V * I * COS (\Theta V - \Theta I)$$

Homework

How does the two-meter wattmeter method works?

Thank you for your attention