

$$15I_1 + 10I_2 = 18$$

$$5I_1 - 10I_2 = 20$$

Now we have 2 eq., 2 unknowns.

Add the equations together:

$$20I_1 = 38 \quad I_1 = 1.90 \text{ A}$$

Plug into bottom equation:

$$5(1.90) - 10I_2 = 20 \quad I_2 = -1.05 \text{ A}$$

note that this means direction of I_2 is opposite to that shown on the previous slide

Use junction equation (eq. 3 from previous page)

$$I_3 = I_1 + I_2 = 1.90 - 1.05$$

$$I_3 = 0.85 \text{ A}$$

We are done!