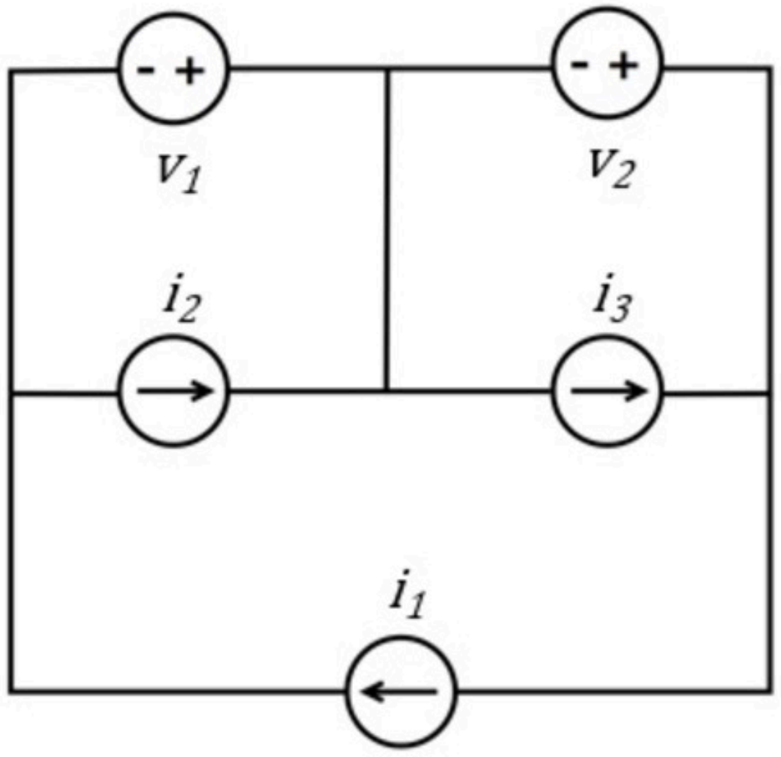
Basic analysis 002

Problem has been graded.

Determine the power P_1 supplied by voltage source v_1 and the power P_2 supplied by voltage source v_2.



Given Variables:

i1 : 4 A

i2 : 2 A

i3 : 3 A

v1 : 3 V

v2 : 4 V

Calculate the following:

P1 (W) :

P2 (W) :

Determine the power P_1 supplied by voltage source v_1 and the power P_2 supplied by voltage source v_2.

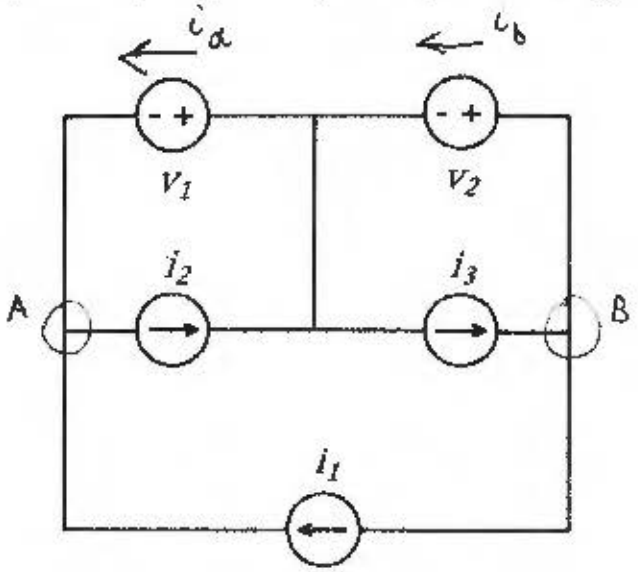
i1 = 4 A

i2 = 2 A

i3 = 3 A

v1 = 3 V

v2 = 4 V



KCL @ A : $i_1 + i_a = i_2 \Rightarrow i_a = 2 - 4 = -2\,A$

$P_1 = v_1 \cdot i_a = -6\,W$ RECEIVED (PASSIVE SIGN CONVENTION)

$\boxed{P_1 = 6\,W}$ SUPPLIED

KCL @ B : $i_3 = i_b + i_1 \Rightarrow i_b = 3 - 4 = -1\,A$

$P_2 = v_2 \cdot i_b = -4\,W$ RECEIVED

$\boxed{P_2 = 4\,W}$ SUPPLIED