MY QUESTION AND ATTEMPT AT SOLUTION.

2. Determine, using the values given in TABLE A, the current I in the circuit of FIGURE 2 by:

(a) mesh analysis - I ALREADY KNOW THE ANSWER IS $-9.2 + j17.30$ A

(b) nodal analysis. - I NEED TO FIND THE SAME ANSWER AS ABOVE USING NODAL ANALYSIS.

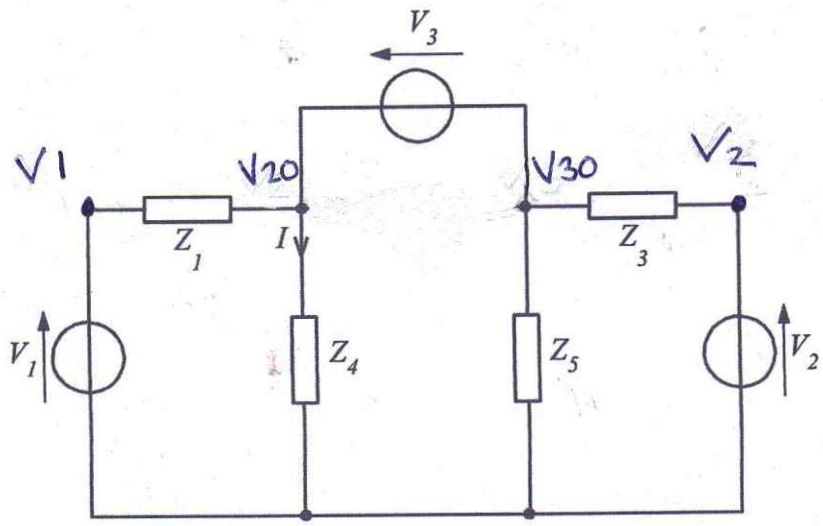

TABLE A

V_1	$120\angle 0°$ V
V_2	$120\angle 90°$ V
V_3	$20\angle 45°$ V
Z_1	2 Ω
Z_3	4 Ω
Z_4	$-j5$ Ω
Z_5	$j4$ Ω

THIS CIRCUIT IS THE SAME AS THE EXAMPLE I ATTACHED ON PAGE (1) (FIG. 14) BUT WITHOUT THE PARALLEL RESISTANCE ACROSS V3.

$$\frac{V_1 - V_{20}}{Z_1} - \frac{V_{20}}{Z_4} - \frac{V_{30}}{Z_5} + \frac{V_2 - V_{30}}{Z_3} = 0$$

$$\frac{120 - V_{20}}{2\Omega} - \frac{V_{20}}{-j5\Omega} - \frac{V_{30}}{j4\Omega} + \frac{j120 - V_{30}}{4} = 0$$

I NEED TO SIMPLIFY $-j5$ AND $j4$. I WILL DIVIDE THEM BY 1

$$\frac{120 - V_{20}}{2\Omega} - (j0.2\,V_{20}) + (j0.25\,V_{30}) + \frac{j120 - V_{30}}{4\Omega} = 0$$

I WILL MULTIPLY $120\,(V_1) \times 4$ AND $j120\,(V_2) \times 2$. LCM IS 4

$$480 - 2V_{20} - (j0.2\,V_{20}) + (j0.25\,V_{30}) + j240 - V_{30} = 0$$