EENG224 Homework I

Due on 16 th of Novomber 2022

1. Find $i_x(t)$ if $v_s(t)$ = 20 Cos(100t-40°) in the circuit of Fig.1

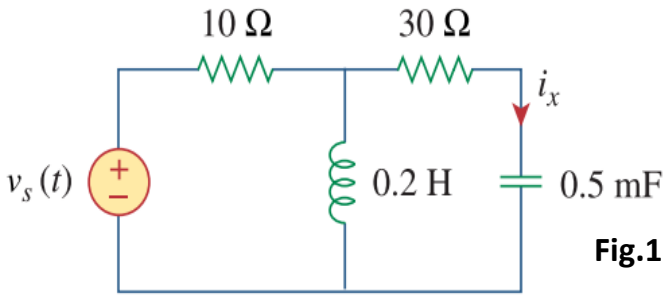

Fig.1

2. By **nodal analysis**, find $i_0(t)$ in the circuit of Fig.2

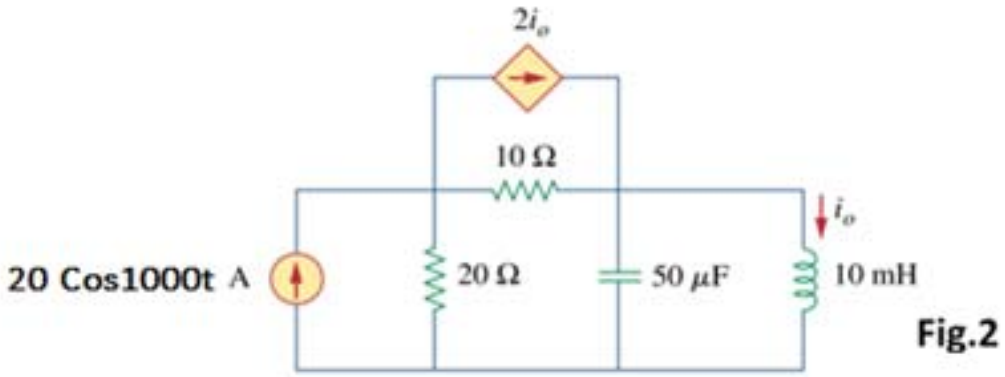

Fig.2

3. By using **mesh analysis**, find I_1 and I_2 in the circuit in Fig. 3.

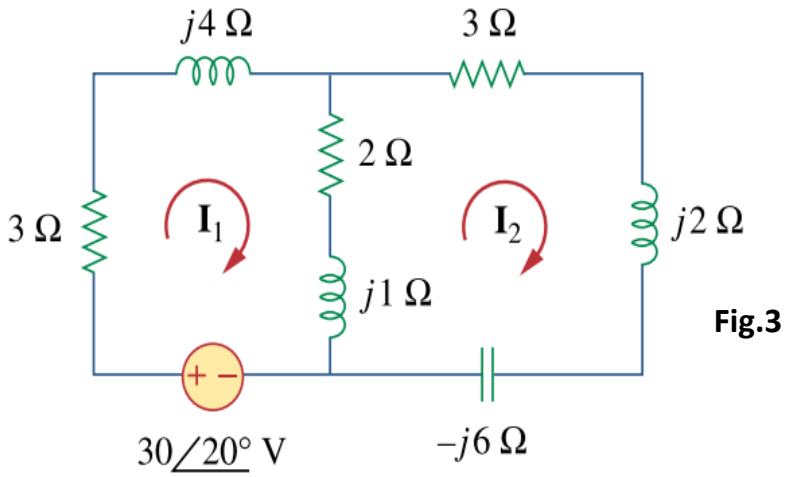

Fig.3

4.

In the circuit shown in Fig.4, use **source transformation** to find the current I_o

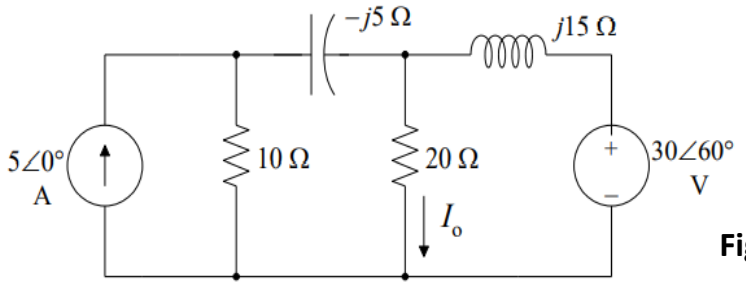

Fig.4

5.

Determine the **load impedance Z_L** that maximizes the average power drawn from the circuit shown in Fig.5. What is **the maximum average power**?

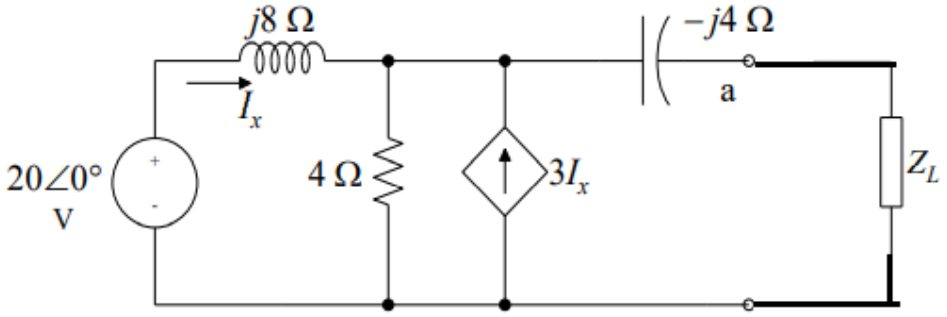

Fig.5