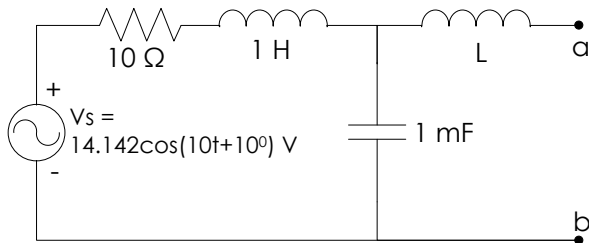
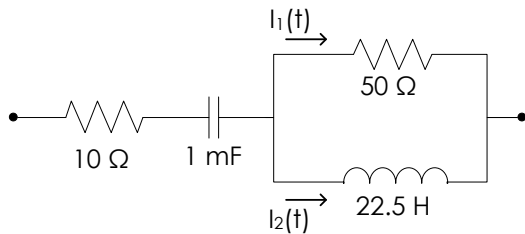


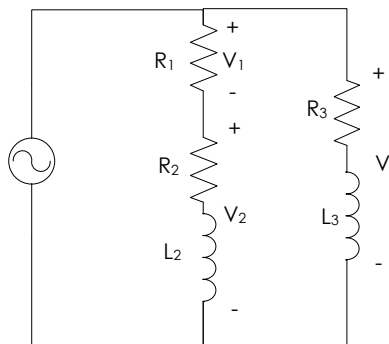
- #1. The following network has a resistive thevenin impedance seen across terminals a and b.
- Find the inductance  $L$ .
  - Draw the thevenin and norton equivalent circuits seen across a and b.



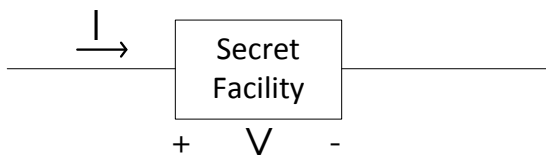
- #2. Find  $i_1(t)$  if  $i_2(t) = 28.48 \cos(10t + 10^\circ)$  A.



- #3. Find  $V(j\omega)$  given  $V_1 = 11 \angle -30^\circ$  V,  $|V_2| = 7.765$  V, and  $X_2/R_2 = 3.732$ .



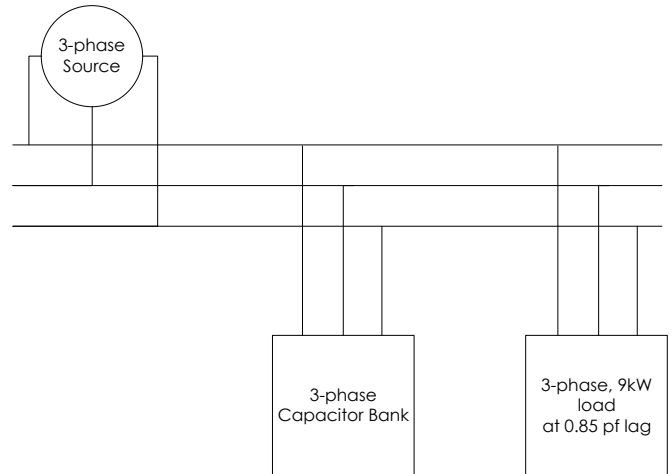
- #4. Complete the table for the following secret facility:



Generated P (W)	Generated Q (Vars)	$V(j\omega)$ (volts)	$I(j\omega)$ (amperes)	pf*
		$220 \angle 0^\circ$	$10 \angle -20^\circ$	
100	75	$12.5 \angle -63.13^\circ$		
100	-75		$10 \angle -100^\circ$	

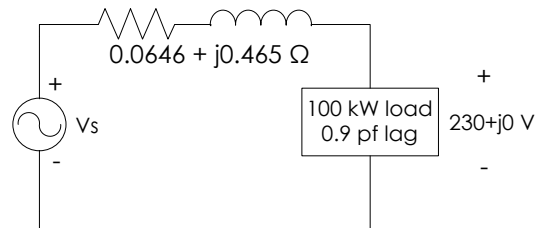
\* specify if leading or lagging

- #5. Find the size of the 3-phase capacitor bank (in kVA) such that the 3-phase source delivers power at 0.9 pf lag.



- #6. Find the real power (in kW) supplied by the voltage source for each case.

Case 1:



Case 2:

