ELEC-E8422 An Introduction to Electric Energy

<center>Homework 2 - **Lecture 2** (3-phases system)</center>

A 3-phases source is feeding two parallel connected 3-phase loads. Both loads are wye-connected. The current of the fist load is 20 A and its power factor is 0,9 leading (capacitive). The current of the second load is 30 A and its power factor is 0,8 lagging (indictive).

a. Draw the sketch of the 3-phases circuit and its corresponding single-phase equivalent circuit
b. Calculate the line current of the source.
c. Calculate the power factor of the whole load (it is not the average of the two 0,5*(0,8+0,9)=0,85!)