

Chapter 11, Problem 71.

Three loads are connected in parallel to a $120\angle 0^\circ$ V rms source. Load 1 absorbs 60 kVAR at $\text{pf} = 0.85$ lagging; load 2 absorbs 90 kW and 50 kVAR leading; and load 3 absorbs 100 kW at $\text{pf} = 1$. (a) Find the equivalent impedance. (b) Calculate the power factor of the parallel combination. (c) Determine the current supplied by the source.