8.1. A 120-V rms 60-Hz source supplies two loads connected in parallel, as shown in Figure 8.1.
(a) Find the power factor of the parallel combination.
(b) Calculate the value of the capacitance connected in parallel that will raise the power factor to 0.98.

Figure 8.1

8.2. The two loads shown in Figure 8.2 draw a total of 2.4 kW at 0.8 pf lagging from a 120-V rms, 60-Hz line. Load 1 absorbs 1.5 kW at 0.707 pf lagging. Determine: (a) the pf of the second load, (b) the parallel element required to correct the pf to 0.9 lagging for the total load.

Figure 8.2