

Two machines are connected in parallel to a 120V, 60 Hz line. The first puts out 45 HP of mechanical power; it is 92% efficient and has a power factor of 0.83 lagging. The second machine uses 18 KVA at 0.74 leading.

- a) Draw the power triangle for the first machine.
- b) Draw the power triangle for the second machine.
- c) Find the current in the line feeding these two machines.
- d) A 10 KVAR capacitor is connected across the power line. What is the new current in the line?