

Chapter 11, Problem 46.

For the following voltage and current phasors, calculate the complex power, apparent power, real power, and reactive power. Specify whether the pf is leading or lagging.

(a) $\mathbf{V} = 220 \angle 30^\circ \text{ V rms}$, $\mathbf{I} = 0.5 \angle 60^\circ \text{ A rms}$

(b) $\mathbf{V} = 250 \angle -10^\circ \text{ V rms}$, $\mathbf{I} = 6.2 \angle -25^\circ \text{ A rms}$

(c) $\mathbf{V} = 120 \angle 0^\circ \text{ V rms}$, $\mathbf{I} = 2.4 \angle -15^\circ \text{ A rms}$

(d) $\mathbf{V} = 160 \angle 45^\circ \text{ V rms}$, $\mathbf{I} = 8.5 \angle 90^\circ \text{ A rms}$