Chapter 9, Solution 28.

Determine the current that flows through a 15-Ω resistor connected in parallel with a voltage source $v_s = 156\cos(377t+45^\circ)$ V.

Solution

$$i(t) = \frac{v_s(t)}{R} = \frac{156\cos(377t + 45°)}{15} = \mathbf{10.4\cos(377t+45^\circ)\ A}.$$