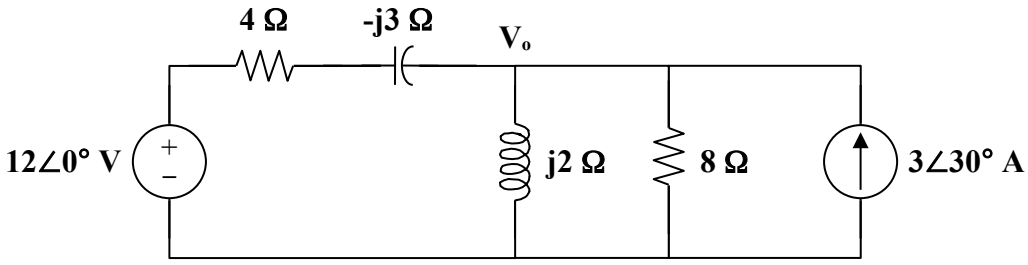
Chapter 11, Solution 76.

The wattmeter reads the real power supplied by the current source. Consider the circuit below.



$$3\angle 30° + \frac{12 - \mathbf{V}_o}{4 - j3} = \frac{\mathbf{V}_o}{j2} + \frac{\mathbf{V}_o}{8}$$

$$\mathbf{V}_o = \frac{36.14 + j23.52}{2.28 - j3.04} = 0.7547 + j11.322 = 11.347\angle 86.19°$$

$$\mathbf{S} = \mathbf{V}_o \mathbf{I}_o^* = (11.347\angle 86.19°)(3\angle -30°)$$

$$\mathbf{S} = 34.04\angle 56.19° \text{ VA}$$

$$P = \text{Re}(\mathbf{S}) = \mathbf{18.942\ W}$$