Problem 2.19 Determine I_x and I_y in the circuit of Fig. P2.19.

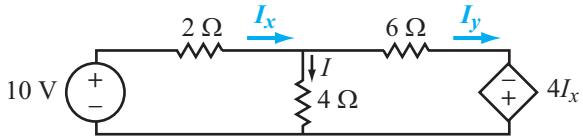

Figure P2.19: Circuit for Problem 2.19.

Solution: Application of KVL to the two loops gives

$$-10+2I_x+4I=0$$
$$-4I+6I_y-4I_x=0.$$

Additionally,

$$I=I_x-I_y.$$

Solution of the three equations yields

$$I_x=3.57\text{ A}, \qquad I_y=2.86\text{ A}.$$