

1.34 Find  $V_x$  in the network in Fig. P1.34 using Tellegen's theorem.

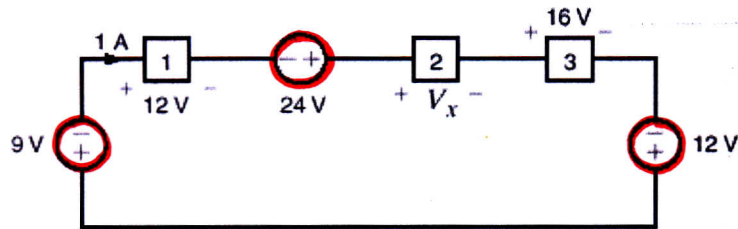


Figure P1.34

**SOLUTION:**

Power supplied = Power absorbed

$$P_{24} + P_{12} = P_{9V} + P_1 + P_2 + P_3$$

$$24I + 12I = 9I + 12I + P_2 + 16I$$

$$36I = 37I + P_2$$

$$P_2 = (-1)(I)$$

$$V_x(I) = -1(I)$$

$$V_x = -1V$$