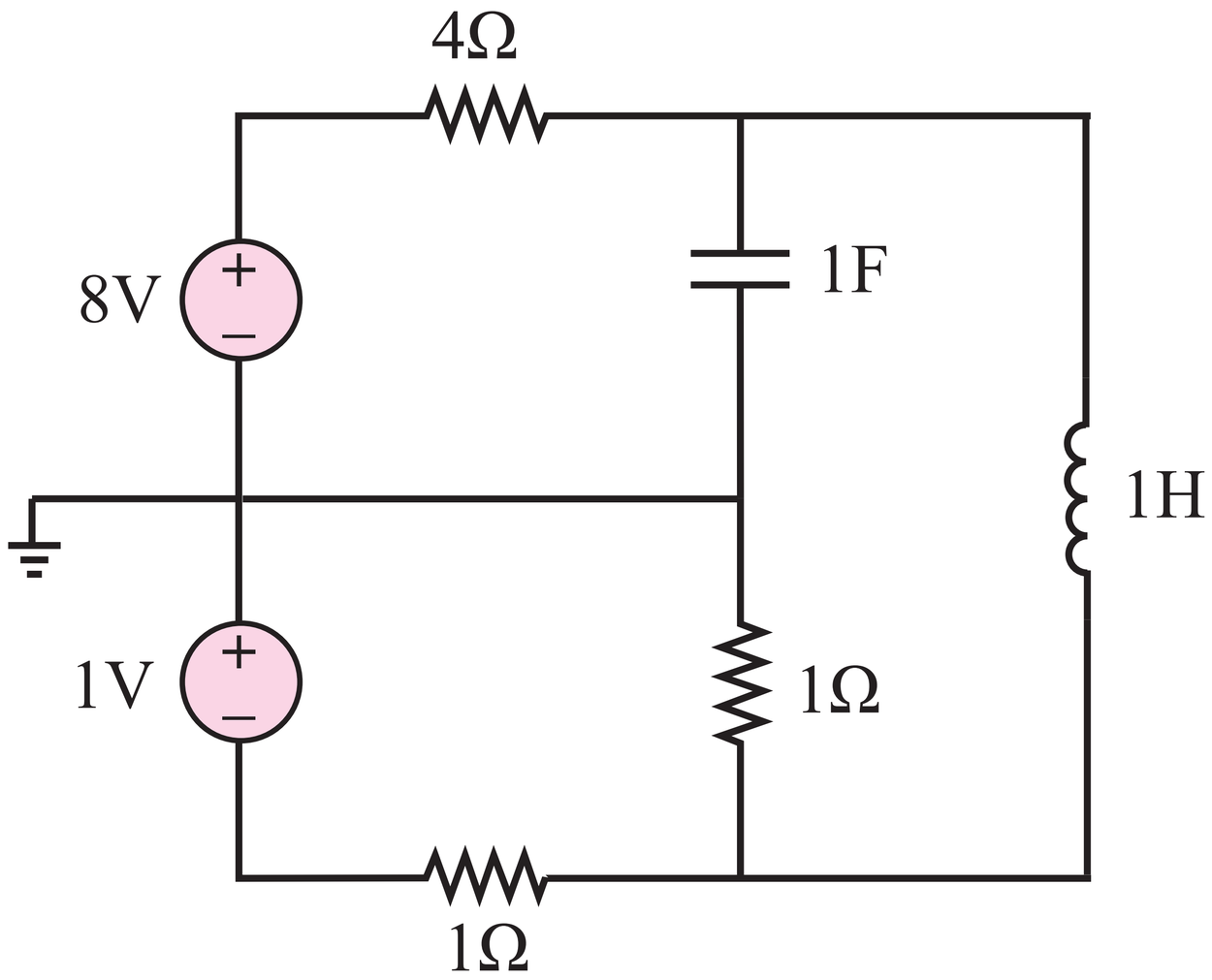
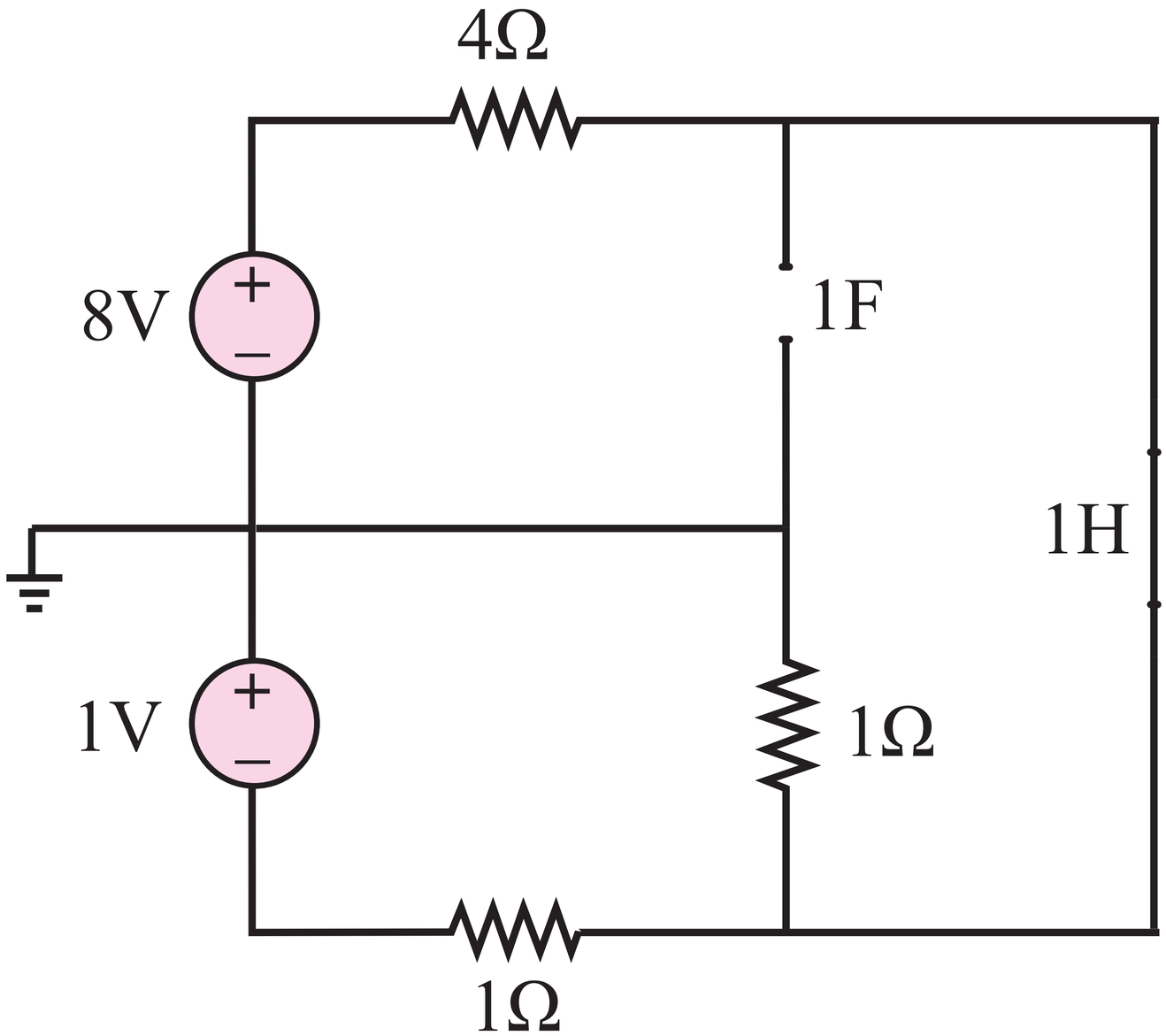
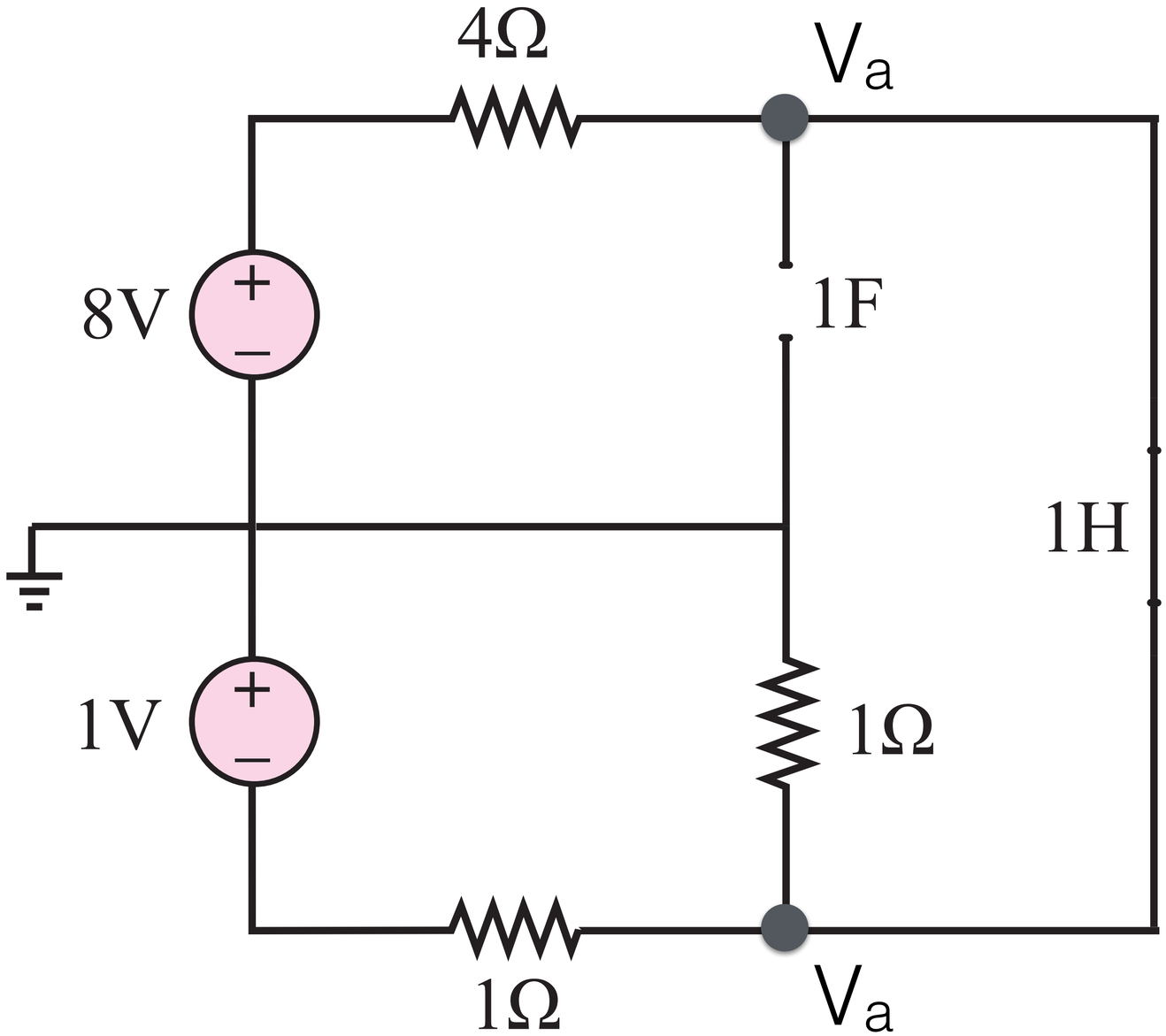
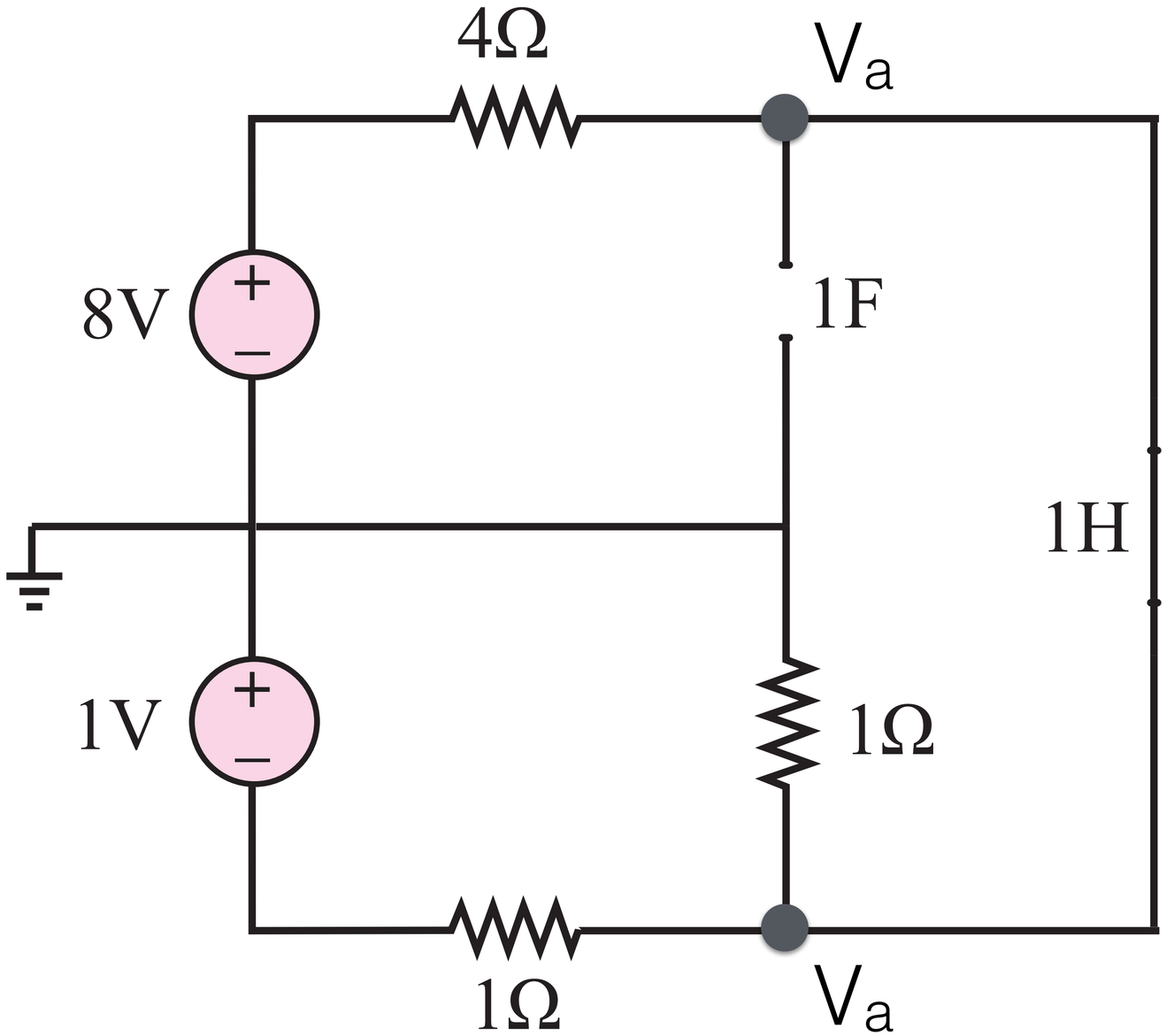
Example

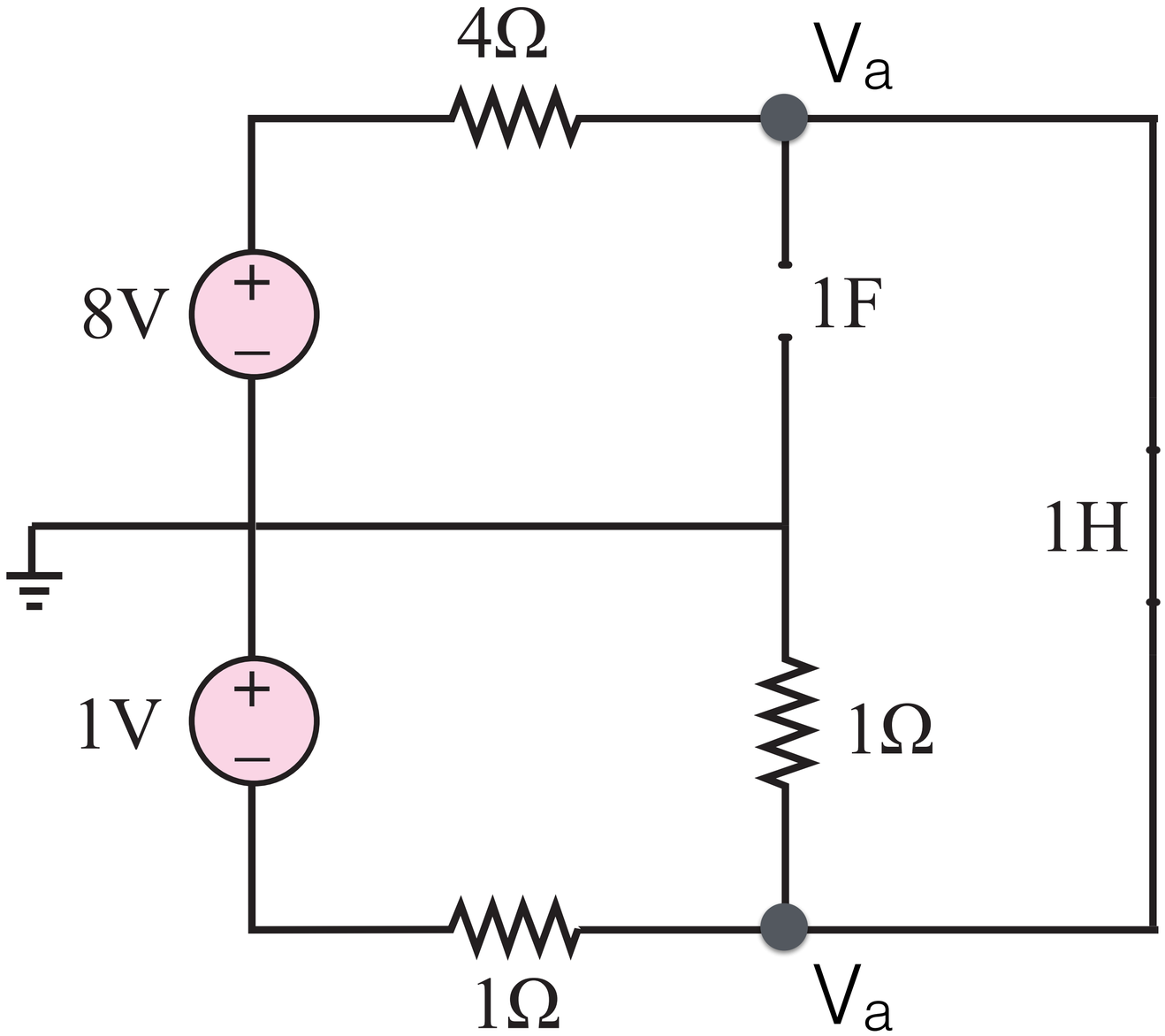
- Find the energy stored in the capacitor and inductor under steady-state conditions




4Ω
8V
1F
1H
1V
1Ω
1Ω


4Ω
Va
8V
1F
1H
1V
1Ω
1Ω
Va


4Ω
Va
8V
1F
1H
1V
1Ω
1Ω
Va



$$\frac{V_a - 8}{4} + \frac{V_a}{1} + \frac{V_a + 1}{1} = 0$$

$$V_a = \frac{1}{2.25} V$$

$$V_c = V_a = 0.444\ V$$

$$I_L = \frac{8 - V_a}{4} = 1.89\ A$$

$$E_c = \frac{1}{2} C\, V_c^2 = 0.0986\ J$$

$$E_L = \frac{1}{2} L\, I_L^2 = 1.786\ J$$