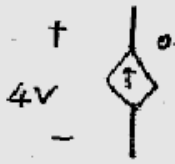
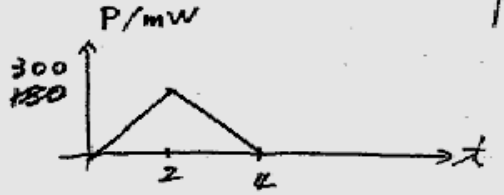
1. 

$$P_{2s} = -VI = -4 \times 1 = -4\ W$$ (4)

2. $$i(t) = \begin{cases} 30t, & 0 < t < 2 \\ -30t + 120, & 2 < t < 4 \end{cases}$$

$$v(t) = 5\ V$$

$$P(t) = v(t)\, i(t) = \begin{cases} 150t, & 0 < t < 2 \\ -150t + 600, & 2 < t < 4 \end{cases}$$



(4)

$$W = \int_0^4 P\, dt = \frac{1}{2} \times 4 \times 300 = 600\ mJ$$ (2)