

1.  $\begin{array}{c} + \\ 4V \\ - \end{array} \quad \begin{array}{c} \uparrow \\ \downarrow \end{array} \quad 0.5V_0 = 0.5 \times 2 = 1A$

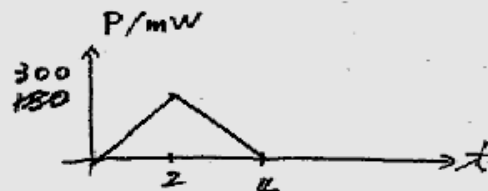
$$P_{Ds} = -VI = -4 \times 1 = -4W$$

(4)

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

$$v(t) = 5V$$

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



(4)

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

(2)