

Chapter 6, Solution 9.

$$v(t) = \frac{1}{1/2} \int_0^t 6(1 - e^{-t}) dt + 0 = 12(t + e^{-t}) \Big|_0^t \text{ V} = 12(t + e^{-t}) - 12$$

$$v(2) = 12(2 + e^{-2}) - 12 = \mathbf{13.624 \text{ V}}$$

$$p = iv = [12(t + e^{-t}) - 12]6(1 - e^{-t})$$

$$p(2) = [12(2 + e^{-2}) - 12]6(1 - e^{-2}) = \mathbf{70.66 \text{ W}}$$