

22. 열기관, 엔트로피 및 열역학 제 2법칙

$$2.(a) e = \frac{W_{\text{eng}}}{|Q_h|} = \frac{25.0 \text{ J}}{360 \text{ J}} = 0.0694 \text{ 또는 } 6.94\%$$

$$(b) |Q_c| = |Q_h| - W_{\text{eng}} = 360 \text{ J} - 25.0 \text{ J} = 335 \text{ J}$$

$$15. \Delta S = \frac{\Delta Q}{T} = \frac{-(0.500 \text{ kg})(3.33 \times 10^5 \text{ J/kg})}{273 \text{ K}} = -610 \text{ J/K}$$

(표 20.0 용해열과 기화열, 식(20.7) 참고)

$$16. \Delta S = \frac{Q_{\text{room}}}{T} = \frac{mc_{\text{water}} |\Delta T|}{T} = \frac{(0.125 \text{ kg})(4186 \text{ J/kg} \cdot ^\circ\text{C})(80)}{293 \text{ K}}$$
$$= 143 \text{ J/K}$$