



A thermodynamic diagram showing energy flows between two reservoirs. At the top, a grey rectangular box represents a hot reservoir at temperature $T_H = 400\text{ K}$. Below it, a downward-pointing arrow indicates heat transfer $Q_H = -6000\text{ J}$ from the hot reservoir. To the right of this arrow, a curved line connects the hot reservoir to a horizontal arrow pointing right, which represents work output $W = 6000\text{ J}$. At the bottom, another grey rectangular box represents a cold reservoir at temperature $T_C = 300\text{ K}$. A second curved line connects the horizontal work arrow to the cold reservoir, completing the cycle.

$$T_H = 400\text{ K}$$

$$Q_H = -6000\text{ J}$$

$$\longrightarrow W = 6000\text{ J}$$

$$T_C = 300\text{ K}$$