



A thermodynamic cycle diagram showing a heat engine operating between two reservoirs. The top reservoir is at  $T_H = 400\text{ K}$  and the bottom reservoir is at  $T_C = 300\text{ K}$ . Heat  $Q_H = +6000\text{ J}$  is added to the system from the hot reservoir, indicated by an upward arrow. Work  $W = 6000\text{ J}$  is done by the system, indicated by a leftward arrow. The cycle is represented by two curved lines connecting the reservoirs.

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

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

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

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