26. (a) Eq. 21-11 leads to

$$\varepsilon = 1 - \frac{T_{\mathrm{L}}}{T_{\mathrm{H}}} = 1 - \frac{333\,\mathrm{K}}{373\,\mathrm{K}} = 0.107\ .$$

We recall that a Watt is Joule-per-second. Thus, the (net) work done by the cycle per unit time is the given value 500 J/s. Therefore, by Eq. 21-9, we obtain the heat input per unit time:

$$\varepsilon = \frac{W}{|Q_{\mathrm{H}}|} \implies \frac{0.500\,\mathrm{kJ/s}}{0.107} = 4.66\ \mathrm{kJ/s}\ .$$

(b) Considering Eq. 21-6 on a per unit time basis, we find $4.66 - 0.500 = 4.16$ kJ/s for the rate of heat exhaust.