

a) $Q_c = 1200 \text{ J}$
 $Q_H = 1700 \text{ J}$

$$W = Q_H - Q_c$$
$$= 1700 \text{ J} - 1200 \text{ J}$$
$$W = 500 \text{ J}$$

$$e = \frac{|W|}{Q_H} = \frac{500 \text{ J}}{1700 \text{ J}}$$

$$e = 29.4\%$$

b) $W = Q_H - Q_c$

$$= 1700 - 1200 \text{ J}$$

$$W = 500 \text{ J}$$

c) $W = 500 \text{ J}$
 $t = .300 \text{ s}$

$$P = \frac{W}{t} = \frac{500 \text{ J}}{.300 \text{ s}}$$

$$P = 1.67 \times 10^3 \text{ W}$$