

Formulae

Heat engines:- $\eta = 1 - \frac{Q_2}{Q_1}$

Efficiency of heat engine \rightarrow $\eta = \frac{W}{Q}$

Refrigerators :-

Coefficient of performance

$$\alpha = \frac{Q_2}{W}$$

$$\therefore \alpha = \frac{Q_2}{Q_1 - Q_2}$$

Carnot engine

$$\eta = 1 - \frac{T_2}{T_1}$$

Entropy :- $\Delta S = \frac{\Delta Q}{T}$