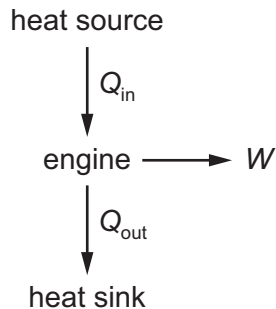


- 18** An engine transforms thermal energy into mechanical work. The engine takes in thermal energy Q_{in} from a heat source and gives out thermal energy Q_{out} to a heat sink, producing useful work W .



What is the efficiency of this engine?

A $\frac{W}{Q_{\text{in}} + Q_{\text{out}}}$

B $\frac{W}{Q_{\text{in}} - Q_{\text{out}}}$

C $\frac{W}{Q_{\text{in}}}$

D $\frac{W}{Q_{\text{out}}}$