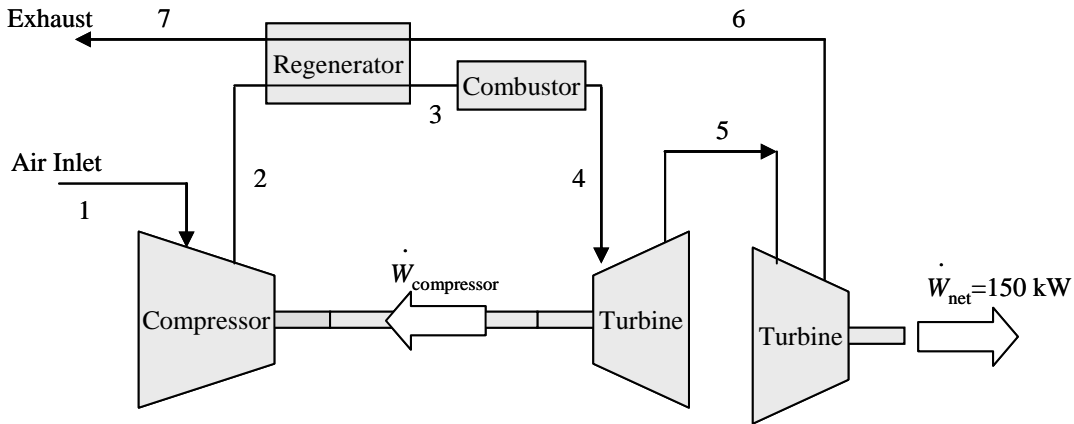


The gas turbine cycle shown is used as an automotive engine. In the first turbine, the gas expands to pressure P_5 , just low enough for this turbine to drive the compressor. The gas is then expanded through the second turbine connected to the drive wheels. The data for the engine are shown in the figure and in the table below. Assume that the compressor efficiency is 85%, and both turbines have 90% efficiency, and that $P_2/P_1=6.0$. The regenerator is ideal, which means that the exit temperature, T_3 , is equal to the turbine outlet temperature T_6 .



Complete the table below

$\dot{m} =$ _____ kg/s

$\eta_{\text{thermal}} =$ _____

	P [kPa]	T [K]	h [kJ/kg]
1	100	300	
2			
3			
4		1600	
5			
6			
7	100		