

2-e-1

We have a car with a combustion engine. The efficiency of the engine is $\eta_1 = 40\%$. The efficiency of the crank that spins the wheels is $\eta_2 = 98\%$ due to friction and the efficiency of the wheel moving the car is $\eta_3 = 90\%$ due to some loss in elastic energy and heating. The efficiency of the air conditioning is $\eta_4 = 50\%$. What is the overall efficiency of the car?

Answer: 35%

It is obtained by multiplying the first 3 efficiencies as the AC efficiency does not have to do with moving the car, it was put there as a diversion.