

Name: _____

Physics 202 Quiz 4

May 6, 2013

Word Problems

Show all your work and circle your final answer. (Ten points each.)

1. The pressure and volume of an ideal monatomic gas change from A to B to C , as Figure 1 shows. The curved line between A and C is an isotherm. (a) Determine the total heat for the process and (b) state whether the flow of heat is into or out of the gas.

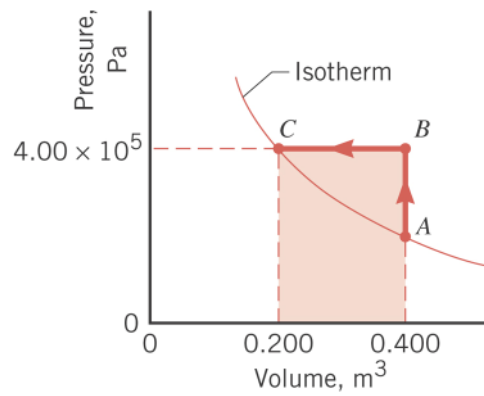


Figure 1: Problem 15.31

2. A Carnot engine operates between temperatures of 650 and 350 K. To improve the efficiency of the engine, it is decided either to raise the temperature of the hot reservoir by 40 K or to lower the temperature of the cold reservoir by 40 K. Which change gives the greatest improvement? Justify your answer by calculating the efficiency in each case.