

Answers to Exam III – 1998-1999 – Fall (pjc)

Problem 1 You need to show all your work for full credit

(a)

Process	Q (kJ)	W (kJ)	$\Delta U$ (kJ)
1 - 2	11.3	0	11.3
2 - 3	0	9.6	9.6
3 - 4	-38.9	18	-20.9
4 - 1	14.9	-14.9	0
Total	-12.7	12.7	0

(b) Heat Pump, COP = 3.06

Problem 2

a) 0.102 kg/s

b) 113.6 A

Problem 3

a) 0.078 kg

b) impossible