ANSWERS TO SELECTED PROBLEMS

Fundamentals of Engineering Thermodynamics
8th Edition by Moran, Shapiro, Boettner, and Bailey, 2014

Chapter 2

2.3	35.75, 45
2.6	-4800
2.10	151.9
2.12	297
2.16	11.23
2.19	9.54
2.22	68
2.25	(a) 1.1996, (b) 0.643
2.28	(a) 2, -12. (b)0.8, -7.33, (c) 0.608, -6.4
2.31	725.4
2.33	Process 1-2: 0, Process 2-3: -554.5, Process 3-4: -400
2.36	(a) 0.096 Btu/s, 0.136 hp, (b) 5.76
2.38	(a) 20, (b) 9
2.41	98
2.44	-1.25×10^{-5}
2.47	(a) 30, (b) 2.56
2.51	2.88
2.53	255
2.55	convection: 0.2, radiation: 0.13
2.59	(a) 4, 4.25, (b) -2, 2
2.63	(a) -3, (b) 85
2.67	(a) 0.25, (b) -50.4, (c) -10.4 (out)
2.71	-310.6
2.73	(a) 1.094, (b) 0.637, (c) 2.031
2.76	(a) W_{12}: 16, W_{23}: -9, W_{31} = 0, (b) Q_{12} = 31, Q_{23} = -33, (c) 0.195
2.78	-280.5, 80, refrigeration cycle
2.80	(a) 0.103, (b) -18.8, (c) refrigeration or heat pump cycle
2.84	0.3413
2.87	(a) 200, (b) 50, (c) $56.1 M/y
2.90	0.45, 3
2.93	$50
2.96	(a) 5.61, (b) $711