

ANSWERS TO SELECTED PROBLEMS

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

Chapter 5

- 5.3 (c) impossible, (d) indeterminate, (e) possible
- 5.5 (b) cycle I
- 5.13 $\gamma = \beta + 1$
- 5.15 decrease T_C
- 5.17 (a) irreversibly, (c) impossible
- 5.18 (b) reversibly, (d) impossible
- 5.20 (b) 1610, 610
- 5.21 30, 360
- 5.23 4.8%
- 5.25 (a) 75 %
- 5.28 (a) yes, (c) no
- 5.30 (c) impossible
- 5.32 54.5%
- 5.34 0.163
- 5.36 (b) the claim requires reversibility
- 5.37 750
- 5.39 1.99
- 5.43 (b) irreversibly
- 5.44 (d) 7, (e) 25
- 5.45 (b) 55
- 5.47 (a) 1250
- 5.48 (a) 4, (b) 5
- 5.50 (a) invalid claim
- 5.53 5
- 5.55 0.243
- 5.56 (a) 0.04
- 5.57 253.5
- 5.59 (a) 3.5
- 5.60 (a) 8.23
- 5.63 (b) 7.52
- 5.65 (a) 0.781
- 5.66 (b) 3.01
- 5.68 (a) 0.8
- 5.69 (a) 2.19
- 5.71 (b) 39.67
- 5.72 yes
- 5.73 5.41
- 5.75 (a) 16.4

- 5.76 (a) 50%, (b) 13% increase
- 5.78 (a) 750
- 5.79 (a) 3.33
- 5.81 (c) 20.88%
- 5.82 (c) 41.67%
- 5.83 (a) 60%
- 5.85 (a) internally reversible
- 5.88 (a) irreversibly
- 5.90 (b) 18%
- 5.94 (b) 23.3%