

**ENME 3770 Engineering Thermodynamics  
Homework # 1, Summer 2010**

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Due: Thursday June 10, 2010. Total 30 points

(First problem is for practice, do not submit this)

2.31 Hint: See the example problem taught in class.

2.56 Hint: Use thermodynamic first law. Answer: between 300 and 400 kJ. (10 points)

2.63 Hint: Find work first by integrating the work along the polytropic process. Then use the thermodynamic first law to find heat. Answer: between 2 and 3 kJ. (10 points)

2.70 Hint: See example 2.3. The electrical energy is transferred as heat to move the piston against the atmospheric pressure and the weight of the piston. (10 points)