

BAE 103
Energy in Biological Systems

Problem Set No. 17
Refrigeration and COP
Due Date: Wednesday, April 25

- 17.1 A home is heated with an air to air heat pump. The manufacturer reports a COP of 3.1 for the heat pump. If the home is losing 25,600 Btu/hr, and electricity costs \$0.085 per kWhr, what is the daily cost of heating this home?
- 17.2 Assume the home owner from problem 17.1 investigates upgrading the home heating system to a geothermal system with a COP of 4.3. What is the new hourly cost of operation?