AME 20231
Homework 8
Due: Friday, 19 March 2010, in class

1. 6.80

2. 6.103

3. 6.108

4. 6.109

5. 6.175E

6. A tank containing 45 kg of liquid water initially at $45°C$ has one inlet and one exit with equal mass flow rates. Liquid water enters at $45°C$ and a mass flow rate of 270 kg/hr. A cooling coil immersed in the water removes energy at a rate of 7.6 kW. The water is well mixed by a paddle wheel so that the water temperature is uniform throughout. The power input to the water from the paddle wheel is 0.6 kW. The pressures at the inlet and exit are equal and all kinetic and potential energy effects can be ignored. Determine the variation of water temperature with time. Give a computer-generated plot of temperature versus time.