SAS
S07

BAE 103
Energy in Biological Systems

Quiz 4 Supplemental
Concepts: Fluid Flow and Friction Loss

Name: _____

4.1. Assume the local atmospheric pressure is 28.98 in of Hg. A gauge shows a vacuum of 780 mm of hg. Is this possible? Explain your answer and show supporting calculations.

4.2. What is the average velocity (m/s) of water flowing in a 10.0 cm I.D. pipe, if the pipe delivers 120 gal/min to a tank?

4.3. The water in problem 4.2 is pumped against a pressure of 37.2 psi. How much power (kW) is consumed by the electric motor driving the pump if the overall efficiency of the pump and motor combination is 86%?