Work in groups of 2-3 students to answer the following questions. Feel free to use flow charts and diagrams, but make sure they clearly address the question that is asked.

Names: _____

1. A number of the experimental treatments bring about a response by inducing a state of pressure diuresis (Marieb, Chapter 27). Outline how pressure diuresis regulates the process of urine formation. In which of the groups is this mechanism the major response regulating urine formation? Make your case by using your data – changes in urine production rates, urine osmolarities. (8 points)

2. Explain why urine production rate drops and urine osmolarity increases immediately following the 2% NaCl (250 ml water) treatment. (6 points)

3. Assume that the hypertonic saline treatment group drank 1000 ml of 2% NaCl.

a. Would the **immediate** response to this saline and volume loading be different from what you described in #2 above? Why? (6 points)

b. Predict what would happen to urine production rate and osmolarity three to four hours after the treatment. Outline the physiology underlying your theory. (6 points)

4. The response to the Gatorade treatment involved an increase in urine production and a decrease in urine osmolarity. Outline the physiological basis of this response – is Gatorade an example of isotonic, hypotonic or hypertonic loading? (7 points)