

Math 330 Reading Questions

Section 4.1, part 3

_____ NAME

Read pages 133–138 in the textbook and answer the following questions. This sheet will be collected at the beginning of the next class. Your responses will be graded for completeness.

1. Why does the method described on page 133 not work for the time-dependent boundary conditions at the top of page 134?
2. What is a *Robin boundary condition*?
3. What steady-state solution arises in the example on pages 134–135?
4. What type of solution occurs if $\beta < -1$ in the problem with a Robin boundary conditions?
5. What scenario is described by the *root cellar problem*?
6. According to the author's solution to the root cellar problem, how deep should we build a root cellar in Minneapolis?