

Math 330 Reading Questions

Section 5.3

_____ NAME

Read pages 195–200 in the textbook and answer the following questions. This sheet will be checked for completeness at the beginning of the next class.

1. How is equation (5.38) obtained? What does this equation represent?
2. What information is provided by a *CFL condition*?
3. What is a *numerical domain of dependence*?
4. If you use a centered difference approximation for $\frac{\partial u}{\partial x}$, for what wave speeds is the resulting approximation scheme stable?
5. How does the *upwind scheme* work?
6. The *Lax-Wendroff scheme* is based on what approximations to the derivatives?