

Math 330 Reading Questions

Section 4.3 part 1

NAME

Read pages 152–159 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. What is a *harmonic function*?
2. How is Poisson's equation different from Laplace's equation?
3. What types of phenomena is modeled by the Laplace and Poisson equations?
4. What do Dirichlet boundary conditions specify for the Laplace and Poisson equations?
5. When solving Laplace's equation on a rectangle, why does the text focus on the setting in which three of the boundary conditions are zero?
6. Where does a Fourier series appear when solving Laplace's equation on a rectangle?