Math 330 Reading Questions

Sections 3.3 and 3.4

NAME _____

Read Sections 3.3 and 3.4 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. Which term causes trouble when integrating a Fourier series? Why?

2. What does it mean if a function has *mean zero*?

3. What property of a function $f(x)$ implies that its Fourier series can be differentiated term by term?

4. How does the chain rule from calculus appear in Theorem 3.22?

5. What change of variables does the text employ in Section 3.4?

6. If $f(x)$ is defined on $[-\ell, \ell]$, what formula does the text give for the Fourier cosine coefficients a_k?