Problem Set 1   Real Analysis 1   Due 8/30/2004

Each problem is worth 5 points. Clear and complete justification is required for full credit. You are welcome to discuss these problems with anyone and everyone, but must write up your own final submission without reference to any sources other than the textbook and instructor.

1. Are parentheses really necessary in the expression $A \cup B \cap C$? That is, is $(A \cup B) \cap C$ the same as $A \cup (B \cap C)$ for all sets A, B, and C?

2. What can be said about the product of an even and an odd function?

3. What can be said about the composition of an even and an odd function?

4. If both functions $f:A \to B$ and $g:B \to C$ are surjective, prove that $g \circ f$ is surjective.