

Math 251: Foundations of Advanced Mathematics

Written Problems #2

Prove the following statements.

1. (Proof Techniques Handout #9) If a and b are integers and $a > 1$ then $a \nmid b$ or $a \nmid (b+1)$.
2. (Proof Techniques Handout #12) For all positive real numbers a and b , $\sqrt{a^2 + b^2} \neq a + b$.
3. Given two positive real numbers a and b , there exists a unique real number c such that $a + bc = 0$.