In each case, circle the letter (a,b,c,d) representing the best possible choice among those provided. (In each case there is one expected answer; but remember that your course grade is based in participation.)

1. In mathematical logic, an axiom is
   a. An irrefutable truth
   b. An undefined term
   c. An assumption used in proving later statements
   d. An argument in support of a belief

2. The negation of the statement ‘\(a = 3\) or \(b > 5\)’ is
   a. ‘\(a \neq 3\) or \(b \leq 5\)’
   b. ‘\(a \neq 3\) and \(b \leq 5\)’
   c. ‘\(b = 3\) or \(a > 5\)’
   d. ‘\(a = 3\) and \(b > 5\)’

3. Mathematics is
   a. A frequently useful tool for expressing some aspects of reality
   b. The most precise available formulation of physical reality
   c. Completely unrelated to physical reality
   d. Always motivated by questions arising from physical reality

4. Good mathematical writing always requires
   a. Lots of notation
   b. Fancy and often technical jargon
   c. Explanation of every algebraic step
   d. A well-organized train of thought

5. The practice of mathematics includes
   a. The formal process of reading and writing proofs of theorems
   b. Qualitative and quantitative methods for analyzing data
   c. Recognizing and describing patterns observed in the real world
   d. All of the above