

Math 142B
August 6, 2018

Question 1 Let S be a set of real numbers. The completeness axiom asserts that

- A. if there is some number c such that $s \leq c$ for every $s \in S$, then S has a supremum.
- B. if S is bounded above, then S has a least upper bound.
- C. If S is bounded above, then S is bounded below.
- *D. **A** and **B**; they are equivalent.
- E. None of the above.

Question 2 Let S be a bounded set of real numbers. Then,

- A. S has a supremum.
- B. S has an infimum.
- C. S has a greatest lower bound.
- D. S has a least upper bound.
- *E. All of the above.

Question 3 Let $S = [0, 1]$. Then,

- A. S is bounded.
- B. 0 is the infimum of S and 1 is the supremum of S .
- C. 0 is the minimum of S and 1 is the maximum of S .
- D. **A** and **B**.
- *E. **A**, **B**, and **C**.

Question 4 Let $S = (0, 1)$. Then,

- A. S is bounded.
- B. 0 is the infimum of S and 1 is the supremum of S .
- C. 0 is the minimum of S and 1 is the maximum of S .
- *D. **A** and **B**.
- E. **A**, **B**, and **C**.