

MATH 243 – Mathematical Structures  
Quiz 9 – December 1, 2017

Your Name: \_\_\_\_\_

*Directions*

Do all work and answer all questions on this sheet. (Use the back if you need more space.)  
There are 30 possible points, distributed as indicated.

A) (15) State the Completeness Axiom ('Axiom C') for the real numbers.

B) (15) Let  $A \subset \mathbf{R}$  and  $2A = \{2x : x \in A\}$ . Show that if  $\sup(A) = c$ , then  $\sup(2A) = 2c$ .