1. Set \( a_n = 1 - \frac{1}{n} \) for positive integers \( n \). Which of these statements is correct?
   
   (1) \( (a_n)_{n=1}^{\infty} \) is bounded.
   
   (2) \( (a_n)_{n=1}^{\infty} \) is nondecreasing. (The book has “increasing”.)
   
   (3) \( (a_n)_{n=1}^{\infty} \) is nonincreasing. (The book has “decreasing”.)
   
   (4) \( (a_n)_{n=1}^{\infty} \) is monotone.

2. Set \( b_n = n + (-1)^n \cdot n + 2 \) for positive integers \( n \). Which of these statements is correct? (First, explicitly calculate the first few terms.)
   
   (1) \( (b_n)_{n=1}^{\infty} \) is bounded.
   
   (2) \( (b_n)_{n=1}^{\infty} \) is nondecreasing.
   
   (3) \( (b_n)_{n=1}^{\infty} \) is nonincreasing.
   
   (4) \( (b_n)_{n=1}^{\infty} \) is monotone.

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