Reading Questions 2

1. If a sequence has a limit then the sequence converges.

2. As n goes to infinity the sequence $s_n = \frac{1}{n^p}$ converges to 0 for all p.

3. What is the limit of the function e^{-n} as n goes to infinity?

Section 9.1 Sequences (Part 2)

Monotone Sequences

P 1. One technique for showing that a sequence does not converge is by showing that the sequence is not bounded. State whether the sequence $s_n = \cos(n)$ for $n \geq 1$ is bounded above or below. From your answer can you conclude that the sequence does not converge?

P 2. Determine if the sequences are monotone increasing or decreasing.

1. $s_n = \frac{1}{n^2}$ for $n \geq 1$

2. $b_n = \left(\frac{1}{3}\right)^n$ for $n \geq 1$