Q1) Consider the sequence $s_n = \frac{1}{n}$. Which is <u>not</u> a subsequence?

Q2) Suppose that s_n has two distinct subsequential limits, given by 0 and 1. What must be true about s_n?

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Q1) Consider the sequence $s_n = \frac{1}{n}$. Which is <u>not</u> a subsequence?

(A) $(1, \frac{1}{5}, \frac{1}{25}, \ldots)$ (B) $(\frac{1}{2}, \frac{1}{8}, \frac{1}{16}, \ldots)$ (C) $(\frac{1}{2}, \frac{1}{7}, \frac{1}{8}, \frac{1}{9}, \frac{1}{32}, \ldots)$

(D) $(1, 1, \frac{1}{2}, \frac{1}{2}, \frac{1}{3}, \ldots)$ (E) $(1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \ldots)$

Q2) Suppose that s_n has two distinct subsequential limits, given by 0 and 1. What must be true about s_n?

(A) convergent (B) not convergent (C) monotone

(D) bounded below (E) the limit exists

Q3) If 5 is a subsequential limit of s_n, what must be true about s_n?

(A) $\{n : |s_n - 5| < 13\}$ is infinite (B) convergent (C) decreasing

(D) increasing (E) Cauchy

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