MA 126 — Fall 2016 — Prof. Clontz — Quiz

Name: _____

Choose D for "None of these"

26. What are the first five terms of the sequence $\langle r_n \rangle_{n=1}^{\infty}$ defined explicitly by $r_n = \frac{n+2}{3+n^2}$?

    A. $\langle \frac{3}{4}, \frac{4}{7}, \frac{5}{12}, \frac{6}{19}, \frac{1}{4}, \ldots \rangle$

    B. $\langle \frac{2}{7}, \frac{1}{2}, \frac{4}{9}, 0, \frac{5}{17}, \ldots \rangle$

    C. $\langle 0, \frac{3}{5}, \frac{5}{18}, \frac{8}{27}, \frac{9}{61}, \ldots \rangle$

27. What are the first five terms of the sequence $\langle w_n \rangle_{n=0}^{\infty}$ defined recursively by $w_0 = 1$, $w_1 = 2$, $w_{n+2} = 2w_n + w_{n+1}$?

    A. $\langle 1, 2, 5, 10, 17, \ldots \rangle$

    B. $\langle 1, 2, 3, 5, 9, \ldots \rangle$

    C. $\langle 1, 2, 4, 8, 16, \ldots \rangle$

28. Which of these statements seems most appropriate for describing the sequence whose initial terms are $\langle 1, \frac{3}{4}, \frac{5}{8}, \frac{9}{16}, \frac{17}{32}, \ldots \rangle$?

    A. The sequence appears to converge to $\frac{1}{2}$.

    B. The sequence appears to diverge to $\frac{1}{2}$.

    C. The sequence appears to neither converge nor diverge.