

Quiz 3

Integrate.

1. Find the pattern: find a closed formula for the n -th term of the sequence. (3 pts. each)

(a) $\frac{-1}{3}, \frac{2}{5}, \frac{-4}{7}, \frac{8}{9}, \frac{-16}{11}, \dots$

(b) $\frac{1}{3}, \frac{2}{11}, \frac{3}{19}, \frac{4}{27}, \frac{5}{35}, \dots$

(c) $\frac{1}{3}, \frac{1}{8}, \frac{1}{15}, \frac{1}{24}, \frac{1}{35}, \dots$

2. Compute. (11 pts.)

$$\sum_{n=1}^{\infty} \frac{2 \cdot 3^{n+1}}{5^{n-1}}$$