Name_____ Period____

11-4 Day 1 Homework

Write the first five terms of the geometric sequence using the given explicit formula.

1. $t_n = 10 \cdot \frac{1}{2}^n$

[A] 10, 3, $\frac{7}{4}$, $\frac{4}{3}$, $\frac{9}{8}$ [B] 5, $\frac{5}{2}$, $\frac{5}{4}$, $\frac{5}{8}$, $\frac{5}{16}$ [C] 10, 5, $\frac{20}{3}$, 10, 16 [D] 10, 5, $\frac{5}{2}$, $\frac{5}{4}$, $\frac{5}{8}$

[1] _____

2. $t_n = \pm 5 \cdot \frac{1}{5}^n$

[A] ±5, –1, $-\frac{5}{6}$, $-\frac{5}{7}$, $-\frac{5}{8}$ [B] –1, $-\frac{1}{5}$, $-\frac{1}{25}$, $-\frac{1}{125}$, $-\frac{1}{625}$

[C] ±5, –1, $-\frac{1}{5}$, $-\frac{1}{25}$, $-\frac{1}{125}$ [D] ±5, $-\frac{4}{5}$, $-\frac{3}{10}$, $-\frac{2}{15}$, $-\frac{1}{20}$

[2] _____

Write an explicit formula for the *n*th term of the geometric sequence.

3. $\frac{15}{4}, \frac{75}{8}, \frac{375}{16}, \frac{1875}{32}, \ldots$

[A] $t_n = \frac{15}{4} \cdot \frac{5}{2}^{n+1}$ [B] $t_n = \frac{2}{3} \cdot \frac{5}{4}^n$ [C] $t_n = \frac{15}{4} \cdot \frac{5}{4}^{n-1}$ [D] $t_n = \frac{15}{4} \cdot \frac{5}{2}^{n-1}$

[3] _____

4. $\frac{8}{3}, \frac{64}{9}, \frac{512}{27}, \frac{4096}{81}, \ldots$

[A] $t_n = \frac{8}{3} \cdot \frac{8}{3}^{n+1}$ [B] $t_n = 1 \cdot 4^n$ [C] $t_n = \frac{8}{3} \cdot \frac{8}{3}^{n-1}$ [D] $t_n = \frac{8}{3} \cdot 4^{n-1}$

[4] _____

Write an explicit formula for the *n*th term of the geometric sequence.

5. $-\frac{1}{3}, \frac{1}{6}, -\frac{1}{9}, \frac{1}{12}, \ldots$

[5] _____

6. $\frac{1}{4}, -\frac{1}{8}, \frac{1}{12}, -\frac{1}{16}, \ldots$

[6] _____