Name_____ Period____

11-4 to 11-6 Review

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

$t_n = -5 \cdot \frac{3^n}{4}$

[A] $-\frac{15}{4}, -\frac{45}{16}, -\frac{135}{64}, -\frac{405}{256}, -\frac{1215}{1024}$

[B] $-5, -\frac{15}{4}, -\frac{45}{7}, -\frac{27}{2}, -\frac{405}{13}$

[C] $-5, -\frac{1}{2}, \frac{1}{8}, \frac{1}{3}, \frac{7}{16}$

[D] $-5, -\frac{15}{4}, -\frac{45}{16}, -\frac{135}{64}, -\frac{405}{256}$

[1] _____

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

$\frac{10}{3}, \frac{40}{9}, \frac{160}{27}, \frac{640}{81}, \ldots$

[A] $t_n = \frac{10}{3} \cdot 2^{n-1}$

[B] $t_n = \frac{10}{3} \cdot \frac{4^{n+1}}{3}$

[C] $t_n = \frac{10}{3} \cdot \frac{4^{n-1}}{3}$

[D] $t_n = \frac{2}{5} \cdot 2^n$

[2] _____

3. Find the two geometric means between 7 and 1512.

[A] 35, 175

[B] 49, 343

[C] 42, 252

[D] 42, 294

[3] _____

4. Find the three *positive* geometric means between 7 and $\frac{4375}{16}$.

[A] $\frac{35}{3}, \frac{175}{9}, \frac{875}{27}$ [B] 14, 28, 56 [C] 21, 63, 189 [D] $\frac{35}{2}, \frac{175}{4}, \frac{875}{8}$

[4] _____

5. Find the sum of the geometric series $0.2 + 0.02 + 0.002 + \ldots$ given the formula $S = \frac{a}{1-r}$, where *a* is the first term, *r* is the common ratio, and *S* is the sum.

[A] 0.222 [B] $\frac{1}{5}$ [C] $\frac{2}{9}$ [D] 0.006

[5] _____

6. Find the sum of the first 5 terms of the geometric series $-4 - \frac{4}{3} - \frac{4}{9} - \frac{4}{27} - \ldots$

[A] –17.33 [B] –5.71 [C] –8.85 [D] –5.98

[6] _____

Evaluate and round your answer to the nearest tenth.

7. $\sum_{k=1}^{6} \frac{1}{2}(4^{k-1})$ [A] 682.5 [B] 512 [C] 424.1 [D] 628.5

[7] _____

8. Write $0.7\overline{3}$ as a fraction in $\frac{a}{b}$ form. [A] $\frac{11}{15}$ [B] $\frac{5}{7}$ [C] $\frac{3}{4}$ [D] $\frac{11}{13}$

[8] _____

9. Express $0.15\overline{42}$ as a geometric series, and write its sum as the ratio of two integers.

[A] $\frac{3}{20}+\sum_{n=1}^{\infty}\frac{21}{5000}\cdot\frac{1}{100}^{n}=\frac{509}{3300}$

[B] $\frac{3}{20}+\sum_{n=0}^{\infty}\frac{21}{5000}\cdot\frac{1}{100}^{n}=\frac{509}{3300}$

[C] $\frac{3}{20}+\sum_{n=1}^{\infty}\frac{21}{5000}\cdot\frac{1}{100}^{n-1}=\frac{116}{825}$

[D] $\frac{3}{20}+\sum_{n=1}^{\infty}\frac{21}{5000}\cdot\frac{1}{100}^{n}=\frac{116}{825}$

[9] _____