

Practice Quiz (Sequences and Series)

Date _____ Period _____

Find the next three terms in each sequence.

1) 14, 114, 214, 314, 414, ...

2) -2, 10, -50, 250, -1250, ...

Find the first four terms in each sequence.

3) $a_n = 5^n + 2$

4) $a_n = -28 - 10n$

Write the recursive formula for each sequence.

5) -10, -15, -20, -25, -30, ...

6) -1, -3, -9, -27, -81, ...

Write the explicit formula for each sequence.

7) -3, -15, -75, -375, -1875, ...

8) -13.8, -15.7, -17.6, -19.5, -21.4, ...

Given the explicit formula for an arithmetic sequence find the first five terms and the 52nd term.

9) $a_n = 14.6 + 0.8n$

10) $a_n = 8 + 30n$

Given the explicit formula for a geometric sequence find the first five terms and the 8th term.

11) $a_n = 4 \cdot (-5)^{n-1}$

12) $a_n = -0.2 \cdot (-5)^{n-1}$

Evaluate each series.

13) $\sum_{a=1}^5 (40 - a)$

14) $\sum_{k=1}^5 2k$

15) $\sum_{a=0}^5 (50 - a^2)$

16) $\sum_{a=1}^5 a(a + 2)$

Rewrite each series using sigma notation.

17) $3 + 6 + 9 + 12 + 15 + 18$

18) $200 + 201 + 202 + 203$

19) $\frac{1}{2} + \frac{2}{3} + \frac{3}{4} + \frac{4}{5} + \frac{5}{6} + \frac{6}{7}$

20) $5 + \frac{5}{2} + \frac{5}{3} + \frac{5}{4}$