

Comparing Arithmetic and Geometric Sequences

 For each sequence, state if it is arithmetic, geometric, or neither.

1) 4, 7, 10, 13, ...

2) 2, 8, 14, 20, ...

3) 1, 7, 15, 31, ...

4) 0, 3, 8, 15, 24, ...

5) 4, 16, 36, 64, 100, ...

6) 1, 4, 9, 16, 25, ...

7) 1, 5, 25, 125, 625, ...

8) 4, 36, 64, 100, ...

9) -29, -34, -39, -44, -49, ...

10) -4, 12, -36, 108, -324, ...

11) 40, 43, 46, 49, 52, ...

12) 1, 3, 6, 10, 15, ...

13) -34, -26, -18, -10, -2, ...

14) $a_n = 5 \cdot 3^{n-1}$

15) $a_n = 3 \cdot 3^{n-1}$

16) $a_n = 5 - 4n$

17) $a_n = -163 + 200n$

18) $a_n = 16 + 3n$

19) $a_n = -4 \cdot (-3)^{n-1}$

20) $a_n = -43 + 4n$

21) $a_n = (2n)^2$

22) $a_n = -43 + 7n$

23) $a_n = -(-3)^{n-1}$

24) $a_n = 2 \cdot (-3)^{n-1}$

25) $a_n = \frac{n}{2^n}$

26) $a_n = \frac{5-5n}{3^n}$

27) $a_n = \frac{7-5n}{2^n}$

28) $a_n = \frac{6-a_{n-1}}{4}$

29) $a_n = -\frac{3}{4} + \frac{3}{2}n$

Answers***Comparing Arithmetic and Geometric Sequences***

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|----------------|----------------|
| 1) Arithmetic | 16) Arithmetic |
| 2) Arithmetic | 17) Arithmetic |
| 3) Neither | 18) Arithmetic |
| 4) Neither | 19) Geometric |
| 5) Neither | 20) Arithmetic |
| 6) Neither | 21) Neither |
| 7) Geometric | 22) Arithmetic |
| 8) Neither | 23) Geometric |
| 9) Arithmetic | 24) Geometric |
| 10) Geometric | 25) Neither |
| 11) Arithmetic | 26) Neither |
| 12) Neither | 27) Neither |
| 13) Arithmetic | 28) Neither |
| 14) Geometric | 29) Arithmetic |
| 15) Geometric | |