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Arithmetic Sequences Quiz PDF

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Which of the following is NOT a characteristic of an arithmetic sequence?

◯ Constant common difference
◯ Linear pattern
◯ Predictable next term
◯ Exponential growth

What is the sum of the first 5 terms of the arithmetic sequence 2, 5, 8, 11, 14?

◯ 35
◯ 45
◯ 50
◯ 40

If the first term of an arithmetic sequence is 10 and the common difference is -2, what is the 4th term?

◯ 4
◯ 8
◯ 10
◯ 6

What is the 5th term of the arithmetic sequence where the first term is 2 and the common difference is 3?

◯ 11
◯ 13
◯ 14
◯ 12

What is the common difference in the arithmetic sequence 3, 7, 11, 15?

◯ 2

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○ 4
○ 5
○ 3

Given the sequence 4, 9, 14, 19, write the formula for the nth term and explain your reasoning.

If the sum of the first 10 terms of an arithmetic sequence is 150, and the first term is 5, find the common difference. Show your work.

How does changing the common difference affect the terms of an arithmetic sequence? Provide an example.

Discuss the differences between arithmetic and geometric sequences, providing examples of each.

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Which of the following sequences are arithmetic sequences? (Select all that apply)

- ☐ 3, 6, 9, 12
- ☐ 10, 7, 4, 1
- ☐ 1, 3, 6, 10
- ☐ 2, 4, 8, 16

What are the possible characteristics of an arithmetic sequence? (Select all that apply)

- ☐ A constant ratio between terms
- ☐ Linear graph representation
- ☐ Exponential growth
- ☐ A constant difference between terms

If the nth term of an arithmetic sequence is given by a_n = 5n - 3, what is the first term?

- ○ 2
- ○ 5
- ○ 8
- ○ 3

Which of the following are true about the common difference in an arithmetic sequence? (Select all that apply)

- ☐ It can be negative
- ☐ It determines the rate of change
- ☐ It is the same between any two consecutive terms
- ☐ It is always positive

Explain how you would determine if a given sequence is arithmetic.

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[   ]

Which sequences can be considered arithmetic sequences? (Select all that apply)

☐ 5, 10, 15, 20
☐ 7, 14, 21, 28
☐ 9, 7, 5, 3
☐ 1, 2, 4, 8

Describe a real-world scenario where an arithmetic sequence might be used and explain why it is appropriate.

[   ]

Which formula represents the nth term of an arithmetic sequence?

○ $a\_n = a\_1 * D^{(n-1)}$
○ $a\_n = a\_1 + n * D$
○ $a\_n = a\_1 - (n-1) * D$
○ $a\_n = a\_1 + (n-1) * D$

Which formulas can be used to find the sum of an arithmetic sequence? (Select all that apply)

☐ $S\_n = n/2 * (a\_1 + a\_n)$
☐ $S\_n = a\_1 * (1 - r^n) / (1 - r)$
☐ $S\_n = n/2 * (2a\_1 + (n-1) * D)$
☐ $S\_n = n * a\_1 + n(n-1)/2 * D$

In which scenarios can arithmetic sequences be applied? (Select all that apply)

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☐ Calculating loan payments
☐ Scheduling regular events
☐ Determining the sum of a series of even numbers
☐ Predictin population growth

Which of the following sequences is an arithmetic sequence?

○ 2, 4, 8, 16
○ 1, 4, 9, 16
○ 3, 6, 12, 24
○ 5, 10, 15, 20

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