NUNAVUT MATHEMATICS 20-1 · UNIT 1 · 10 QUESTIONS

Sequences and Series — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **In a geometric sequence, $t_2 = 18$ and $t_5 = 486$. The first term of the sequence is**

- **A** 6
- **B** 3
- **C** 9
- **D** 2

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2 **The three geometric means between 2 and 162 are**

- A 8, 24, 72
- B 6, 18, 54
- C 14, 42, 126
- D 4, 20, 100

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3 **The monthly fee for a gym membership is $65 in the first month, and the fee increases by $2 each month. The total amount paid, in dollars, over 24 months is ____.**

ANSWER _____

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4 **The sum of the first n terms of an arithmetic sequence is $S_n = 3n^2 + 2n$. The first term of the sequence is**

- A 3
- B 8
- C 2
- D 5

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5 **A radioactive substance has a half-life of 5 days. If 640 g of the substance is present initially, the amount remaining after 20 days is**

- A 80 g
- B 160 g
- C 40 g
- D 20 g

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6 **An arithmetic sequence has $t_7 = 26$ and $t_{13} = 50$. The sum of the first 20 terms of the sequence is**

- A 780
- B 800
- C 820
- D 760

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7 **A stack of logs has 32 logs in the bottom row, 30 in the next row, and so on, with 8 logs in the top row. The number of rows in the stack is**

- A 12
- B 14
- C 11
- D 13

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8 The sum of the infinite geometric series with $t_1 = 45$ and common ratio $\frac{2}{5}$ is ____.

ANSWER _____

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9 The general term of the geometric sequence with $t_1 = 7$ and common ratio -2 is

A $t_n = 7(-2)^n$

B $t_n = -2(7)^{n-1}$

C $t_n = 7(-2)^{n-1}$

D $t_n = 7(2)^{n-1}$

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10 A new car worth $45 000 loses 20% of its value each year. Its value, to the nearest dollar, after 4 years is ____.

ANSWER _____

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ANSWER KEY

1. A
2. B
3. 2112
4. D
5. C
6. B
7. D
8. 75
9. C
10. 18432

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