Multiple choice questions - Sequences

Year: Year 10 · 10

Question 1 The nth term of 2, 5, 8, 11 is

- ◯ **A.** $n + 3$
- ◯ **B.** $3n - 1$
- ◯ **C.** $3n + 1$
- ◯ **D.** $2n + 3$

Question 2 The next term of 1, 4, 9, 16 is

- ◯ **A.** 20
- ◯ **B.** 24
- ◯ **C.** 25
- ◯ **D.** 32

Question 3 The 10th term of $3n + 2$ is

- ◯ **A.** 30
- ◯ **B.** 32
- ◯ **C.** 23
- ◯ **D.** 35

Question 4 The first four terms of $n^2 - 1$ are

- ◯ **A.** 0, 3, 8, 15
- ◯ **B.** 1, 4, 9, 16
- ◯ **C.** 0, 4, 9, 16
- ◯ **D.** 2, 5, 10, 17

Question 5 The nth term of 10, 8, 6, 4 is

- ◯ **A.** $2n + 8$
- ◯ **B.** $-2n + 12$
- ◯ **C.** $-2n + 10$
- ◯ **D.** $12n - 2$

Question 6 Which sequence is geometric?

- ◯ **A.** 2, 4, 6, 8
- ◯ **B.** 2, 4, 8, 16
- ◯ **C.** 1, 4, 9, 16
- ◯ **D.** 10, 7, 4, 1

Question 7 The rule for 3, 5, 9, 17 is

- ◯ **A.** add 2, then 4, then 8
- ◯ **B.** multiply by 2 then subtract 1
- ◯ **C.** add 3
- ◯ **D.** multiply by 3 then subtract 4

Question 8 Is 41 in the sequence $4n + 1$?

- ◯ **A.** yes, n = 10
- ◯ **B.** no
- ◯ **C.** yes, n = 11
- ◯ **D.** yes, n = 9

Question 9 (Higher) The nth term of 2, 6, 12, 20 is

- ◯ **A.** $n^2 + n$
- ◯ **B.** $2n^2$
- ◯ **C.** $n^2 + 2$
- ◯ **D.** $4n - 2$

Question 10 (Higher) The 8th term of 5, 10, 20, 40, ... is

- ◯ **A.** 320
- ◯ **B.** 640
- ◯ **C.** 1280
- ◯ **D.** 80

Answer grid - Sequences

Year: Year 10

Question	Answer	Explanation
1	**B**	$d = 3$, $2 - 3 = -1$.
2	**C**	Square numbers.
3	**B**	$30 + 2$.
4	**A**	Substitute $n = 1, 2, 3, 4$.
5	**B**	$d = -2$, $10 + 2 = 12$.
6	**B**	Multiply by 2 each time.
7	**B**	$3 \times 2 - 1 = 5$, $5 \times 2 - 1 = 9$.
8	**A**	$4n = 40$.
9	**A**	Second difference 2, so n^2; remainder n.
10	**B**	5×2^7.