Extra Content for Foundation GCSE

101. Generating Sequences from Term-to-Term and Position-to-Term Rules

Practice Questions

1. The first term of a sequence is 3, and each term is found by adding 4 to the previous term. Write the first five terms.
2. A sequence follows the rule $T_n = 2n + 5$. Find the first five terms.
3. A sequence starts at 10, and each term is found by multiplying the previous term by 2. Write the first five terms.
4. The first term of a sequence is 50, and each term decreases by 7. Find the first five terms.
5. A sequence follows the rule $T_n = 3n^2 - 1$. Find the first four terms.
6. A sequence is defined by $u_n = u_{n-1} + 2$, where $u_1 = 1$. Write the first six terms.
7. A sequence follows the rule $T_n = 5n - 2$. Find the value of T_5.
8. A sequence follows the rule $T_n = n^2 + 4n$. Find the first five terms.
9. Given the sequence 2, 6, 18, 54, ..., find the next two terms.

Scenario Questions

1. A shop stacks chairs in a sequence where each new row has 2 more chairs than the previous row. The first row has 4 chairs. How many chairs are in the first five rows?
2. A gardener plants 3 flowers in the first row, 6 in the second row, and 9 in the third row. If this pattern continues, how many flowers will be in the seventh row?
3. A staircase is built with 1 step on the first level, 3 on the second, and 5 on the third. If the pattern continues, how many steps will be on the eighth level?
4. A cinema adds 5 more seats per row than the previous row. The first row has 12 seats. How many seats are in the sixth row?
5. A factory produces 10 items in the first hour, 20 in the second hour, and 40 in the third hour. If the pattern continues, how many items will be produced in the fifth hour?
6. A snail climbs a wall by moving 5 cm on the first day, 10 cm on the second day, and 20 cm on the third day. If the pattern continues, how far will it climb on the sixth day?
7. A person saves £2 on the first day, £4 on the second day, and £8 on the third day. If this pattern continues, how much will they save on the seventh day?
8. A car rental company charges £30 on the first day, £45 on the second day, and £60 on the third day. If the pattern continues, how much will be charged on the fifth day?
9. A basketball player scores 4 points in the first game, 8 in the second game, and 16 in the third game. If this pattern continues, how many points will they score in the fifth game?
10. A theme park increases ticket prices by £5 each year. If the ticket cost was £20 in 2020, how much will it cost in 2025?

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Practice Questions

1. 3, 7, 11, 15, 19
2. 7, 9, 11, 13, 15
3. 10, 20, 40, 80, 160
4. 50, 43, 36, 29, 22
5. 2, 11, 26, 47
6. 1, 3, 5, 7, 9, 11
7. 23
8. 5, 12, 21, 32, 45
9. 162, 486

Scenario Questions

1. 4, 6, 8, 10, 12 (Total: 40 chairs)
2. 21 flowers
3. 15 steps
4. 37 seats
5. 160 items
6. 160 cm
7. £128
8. £90
9. 64 points
10. £45