103. Recognising Special Sequences (Triangle, Square, Cube, Fibonacci)

Practice Questions

1. Identify the sequence: 1, 3, 6, 10, 15, ...
2. Identify the sequence: 1, 4, 9, 16, 25, ...
3. Identify the sequence: 1, 8, 27, 64, 125, ...
4. Identify the sequence: 1, 1, 2, 3, 5, 8, 13, ...
5. What is the next term in the sequence: 1, 3, 6, 10, 15, ...?
6. What is the next term in the sequence: 1, 4, 9, 16, 25, ...?
7. What is the next term in the sequence: 1, 8, 27, 64, 125, ...?
8. Write the first five **cube numbers**.
9. Write the first five **triangle numbers**.
10. Write the first six **Fibonacci numbers**.

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Scenario Questions

1. A person stacks boxes in triangular layers: 1 on the first row, 3 on the second, 6 on the third. How many boxes are in the fifth row?
2. A builder arranges square tiles: 1 in the first layer, 4 in the second, 9 in the third. How many tiles are in the seventh layer?
3. A student arranges books in a triangular stack: 1 on the top row, 3 on the second, 6 on the third. How many books are in the sixth row?
4. A business increases its staff following the Fibonacci sequence. If the first two months had 1 and 1 employee, how many will there be in the sixth month?
5. A warehouse stacks crates in cube numbers. How many crates will be in the fifth layer?
6. A stadium has a triangular seating arrangement where the first row has 1 seat, the second row has 3 seats, the third row has 6 seats, and so on. If this pattern continues, how many seats are in the ninth row?
7. A sculptor builds pyramid-shaped displays using cube numbers. The first display has 1 block, the second has 8 blocks, the third has 27 blocks, and so on. How many blocks will be in the sixth display?
8. A garden centre arranges flowerpots in a square pattern. The first layer has 1 pot, the second has 4, the third has 9, and so on. How many pots are in the eighth layer?
9. A staircase is built where each step follows the Fibonacci sequence. The first two steps are 1 cm high each, the third step is 2 cm, the fourth is 3 cm, and so on. What is the height of the ninth step?
10. A swimming pool has square tiles placed in a pattern where the first row has 1 tile, the second row has 4 tiles, the third row has 9 tiles, and so on. If the pool has ten rows, how many tiles are in the tenth row?

Extra Content for Foundation GCSE

103. Recognising Special Sequences (Triangle, Square, Cube, Fibonacci)

Practice Questions

1. Triangular numbers
2. Square numbers
3. Cube numbers
4. Fibonacci sequence
5. 21
6. 36
7. 216
8. 1, 8, 27, 64, 125
9. 1, 3, 6, 10, 15
10. 1, 1, 2, 3, 5, 8

Scenario Questions

1. 15 boxes
2. 49 tiles
3. 21 books
4. 8 employees
5. 125 crates
6. 45 seats
7. 216 blocks
8. 64 pots
9. 34 cm
10. 100 tiles