

QUADRATIC & OTHER SEQUENCES

Task 1 – Work out the next two terms of each of the following sequences.

- 1) 1, 4, 9, 16, 25, __, __
- 2) 2, 6, 12, 20, 30, __, __
- 3) 3, 8, 15, 24, 35, __, __
- 4) 5, 9, 15, 23, 33, __, __
- 5) 0, 3, 9, 18, 30, __, __
- 6) 1, 5, 13, 25, 41, __, __
- 7) 4, 8, 16, 28, 44, __, __
- 8) 7, 14, 22, 31, 41, __, __
- 9) 2, 7, 17, 32, 52, __, __
- 10) 0, 0, 3, 9, 18, __, __
- 11) 1, 3, 7, 13, 21, __, __

Task 2 – Work out the next two terms of each of the following sequences.

- 12) 1, 1, 2, 3, 5, 8, __, __
- 13) 2, 2, 4, 6, 10, 16, __, __
- 14) 3, 5, 8, 13, 21, __, __
- 15) 1, 4, 5, 9, 14, 23, __, __
- 16) 5, 7, 12, 19, 31, __, __
- 17) 10, 10, 20, 30, 50, 80, __, __

Task 3

- 18) Does the following sequence follow a Fibonacci pattern?
4, 6, 10, 16, 26, 42
Explain your answer.
- 19) A student says the following sequence is a quadratic sequence.
3, 7, 11, 15, 19
Do you agree? Explain your answer.
- 20) Work out the next two terms of the sequence:
1, 4, 9, 16, 25, __, __
What type of sequence is this?
- 21) Work out the next two terms of the sequence:
1, 8, 27, 64, __, __
What type of sequence is this?

22) Work out the next two terms of the sequence:

2, 4, 8, 16, 32, __, __

What type of sequence is this?

23) Work out the next two terms of the sequence:

100, 90, 80, 70, 60, __, __

What type of sequence is this?

24) 1, 4, 9, 16, 25

Is the sequence:

- a. Fibonacci
- b. Quadratic
- c. Geometric

Circle the correct answer and explain why.

25) A pattern of dots forms this sequence:

1, 5, 13, 25, 41

Find the next two numbers.

Challenge

26) A staircase is built like this:

Step 1 uses 2 bricks

Step 2 uses 6 bricks

Step 3 uses 12 bricks

Step 4 uses 20 bricks

Which step has 210 bricks?