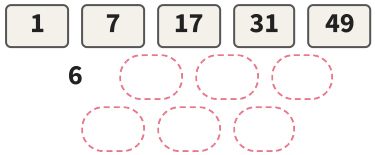
The nth Term of a Quadratic Sequence

1

Find the nth term of

1, 7, 17, 31, 49



halve the second difference

☐ ÷ 2 = ☐ so it starts ☐ n^2

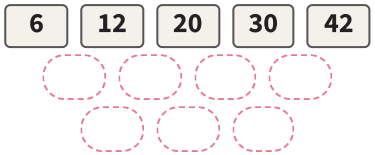
sequence	1	7	17	31	49
the n^2 part					
what is left					

nth term _____

2

Find the nth term of

6, 12, 20, 30, 42



halve the second difference

☐ ÷ 2 = ☐ so it starts ☐ n^2

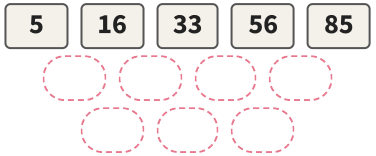
sequence	6	12	20	30	42
the n^2 part					
what is left					

nth term _____

3

Find the nth term of

5, 16, 33, 56, 85



☐ ÷ 2 = ☐ so it starts ☐ n^2

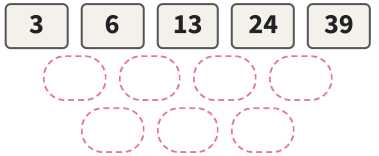
sequence	5	16	33	56	85
the n^2 part					
what is left					

nth term _____

4

Find the nth term of

3, 6, 13, 24, 39



☐ ÷ 2 = ☐ so it starts ☐ n^2

sequence	3	6	13	24	39
the n^2 part					
what is left					

nth term _____

5

Find the nth term of 4, 5, 8, 13, 20, …

nth term _____

6

Ring the sequences that are quadratic.

3, 8, 13, 18, 23

2, 5, 10, 17, 26

1, 8, 27, 64, 125

0, 6, 16, 30, 48

Answer _____

7

Find the nth term of 6, 20, 44, 78, …

nth term _____

8

Zara finds the nth term of 5, 17, 37, 65, 101, … She writes $8n^2 - 3$. Explain what Zara has done wrong. Then find the right nth term.

nth term _____

The nth Term of a Quadratic Sequence *further practice*

9

Find the nth term of the sequence

3, 11, 21, 33, 47, …

nth term _____

10

Find the nth term of the sequence

−4, −5, −2, 5, 16, …

nth term _____

11

Find the nth term of the sequence

9, 20, 35, 54, …

nth term _____

12

Pattern n is made of dots. Here are the first three patterns. Find the nth term for the number of dots. How many dots are in pattern 10?



Pattern 1 Pattern 2 Pattern 3

nth term _____

Pattern 10 _____

13

Find the 10th term of the sequence

3, 10, 21, 36, …

10th term _____

14

Is 150 a term of the sequence

6, 9, 14, 21, 30, … Explain how you know.

Answer _____

15

Find the nth term of the sequence

2, 7, 15, 26, 40, …

nth term _____

16

Ava says the sequence

3, 6, 11, 18, 27, … is linear, because it goes up every time. Is Ava right? Explain how you know.

Answer _____