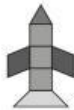


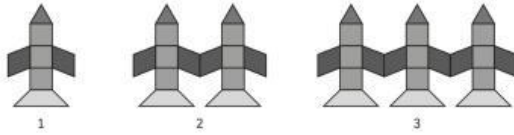
Exercise 2.1

Focus

- 1 Here is a rocket made of seven shapes.



Magda draws a sequence using the rockets.



She records information about the sequence in a table.

Position	1	2	3	
Term (number of shapes)				28

- a Complete the table.
- b What is the term-to-term rule for the sequence?
- c What is the position-to-term rule for the sequence?
- d What is the 25th term in the sequence?

- 2 Felipe counts up in steps of 0.3 starting at 4.
Write the first five terms of Felipe's sequence.

- 3 Write the next two terms in each sequence.

a 1.4, 1.5, 1.6, 1.7, ,

b $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, ,

c 0, -0.3, -0.6, -0.9, -1.2, ,

- 4 a Find the position-to-term rule for the numbers in this table.

Position	Term
1	9
2	18
3	27
4	36

- b What is the 10th term of the sequence 9, 18, 27 ...?

- 5 \$1 = 100 cents

- a Complete the table.

\$ (position)	1	2	5	10	100
cents (term)					

- b What is the position-to-term rule for the sequence 100, 200, 300 ...?

Practice

- 6 Given the first term and the term-to-term rule, write down the first six terms of each sequence. Then find the position-to-term rule and the 50th term.

a First term: 9, term-to-term rule: add 9

First six terms: _____

Position-to-term rule: _____

50th term:

b First term: 11, term-to-term rule: add 11

First six terms: _____

Position-to-term rule: _____

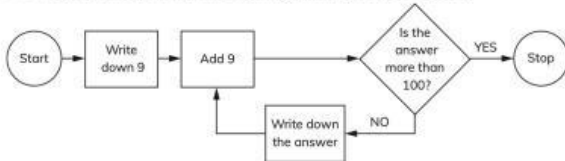
50th term:

- 7 Sofia counts back in steps of 0.5 starting at 2.9.

a What is the 5th number in her sequence?

b What is the 10th number in her sequence?

- 8 a Follow the instructions in the flow diagram to generate a sequence.



b What is the position-to-term rule for the sequence?

c Imagine the sequence continues forever.
What is the 60th term in the sequence?

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- 9 Kiki counts in steps of 0.03 starting at 3.26.

What are the next three numbers in her count?

3.26, 3.29, 3.32, , ,

- 10 Write a sequence of five terms with steps of constant size which has a first term of 1 and a second term of $1\frac{2}{5}$.

Challenge

- 11 a Write the first five numbers in a sequence that starts at 42 and has a term-to-term rule of add 0.15

b What is the 10th term in the sequence?

- 12 A sequence has a position-to-term rule of multiply by 6. Complete the table.

Position	Term
1	
2	
	30
	36
	72

- 13 The numbers in this sequence increase by equal amounts each time.

a Write the three missing numbers.

10, , , , 42

b What is the term-to-term rule for the sequence? _____

c Salma says, 'The position-to-term rule is multiply by 8. Is she correct? Explain your answer.

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