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PRACTICE TEST

Practice test · Term 1–4
Version 1.6 · 21 October 2026

Mathematics · Grade 6

Patterns, Functions and Algebra

Term 1–4 | 9 questions | CAPS-aligned

TOTAL 42 MARKS

NAME AND SURNAME _____ CLASS _____ DATE _____

Instructions

1. Read all the questions carefully before you begin writing.
2. Answer all the questions on the question paper itself.
3. Show all your working where the question asks for it.
4. Write neatly. Work that cannot be read cannot be marked.
5. You may use a pencil and a ruler for drawings.
6. Calculators are not allowed.

Question	Content of the question	Marks	Obtained
1	Multiple choice	3	
2	Matching	4	
3	Patterns and number sentences	8	
4	Numeric patterns	4	
5	Input and output	6	
6	Number sentences	4	
7	Geometric patterns	5	
8	Describe the rule	5	
9	Equivalent number sentences	3	
	Total	**42**	
	Percentage		%

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1 Multiple choice

3 marks

Choose the correct answer and circle its letter.

PRACTICE EXAMPLE · DO THIS ONE TOGETHER FIRST

Which number comes next? 3 ; 6 ; 12 ; 24 ; _____

a 30 b 36 c 48

The pattern doubles each time. 24 × 2 = 48, so the answer is c. Circle the c.

This example does not count for marks. It only shows you how to answer.

1.1 Which number comes next? 5 ; 20 ; 80 ; 320 ; _____ **(1)**

(a) 1 280 (b) 640 (c) 1 200

1.2 Which number comes next? 81 ; 72 ; 63 ; 54 ; _____ **(1)**

(a) 45 (b) 44 (c) 46

1.3 The rule is: multiply by 2 and then add 1. What is the output when the input is 6? **(1)**

(a) 12 (b) 13 (c) 14

2 Matching

4 marks

Match the description in COLUMN A with the correct word in COLUMN B. Write only the LETTER. One word is left over.

2.1 **(4)**

COLUMN A	COLUMN B	Answer
1. The rule that makes a pattern continue	A. Output	1 = _____
2. The number that goes into a flow diagram	B. Factor	2 = _____
3. The number that comes out of a flow diagram	C. Input	3 = _____
4. One number in a pattern	D. Rule	4 = _____
	E. Term	

3 Patterns and number sentences

8 marks

3.1 Extend the following number pattern: 1 ; 4 ; 13 ; 40 ; _____ ; _____ **(2)**

What is the rule of the pattern?

3.2 Solve: 6 × _____ − 11 = 49. Show your working. **(2)**

3.3 Look at the table. Lebo says the rule is: "Multiply the input by 4 and subtract 1." Ayesha writes the rule as the number sentence △ = ☐ × 4 − 1. a. Do Lebo and Ayesha describe the same rule? Check by substituting input 3. b. Use the rule to find the output for input 25. **(2)**

Input	1	2	3	4
Output	3	7	11	15

a. _____

b. _____

3.4 Two friends share R960 in the ratio 5 : 3. How much does each get? **(2)**

4 Numeric patterns

4 marks

4.1 Extend the pattern: 5 ; 11 ; 23 ; 47 ; _____ ; _____ **(2)**

4.2 What is the rule of the pattern 7 ; 16 ; 25 ; 34 ? **(2)**

5 Input and output

6 marks

5.1 The rule is: output = input × 3 + 7. Complete the table. **(4)**

Input	4	9	15	20
Output				

5.2 If the output is 43, what is the input? Show your working. **(2)**

6 Number sentences

4 marks

6.1 Write the missing number in the block. **(4)**

a. ☐ × 12 = 144 b. (☐ + 15) × 2 = 50

c. 3 × ☐ − 8 = 40 d. 90 ÷ ☐ + 4 = 13

7 Geometric patterns

5 marks

7.1 Draw the 4th figure of the pattern below in the open block. **(1)**



7.2 How many blocks will Term 5 have? Explain how you know. **(2)**

7.3 Write down the rule of this pattern. **(2)**

8 Describe the rule

5 marks

8.1 Look at the pattern: 6 ; 11 ; 16 ; 21 ; _____ ; _____ **(3)**

a. Write the next TWO numbers: _____ _____

b. Describe the rule in your own words: _____

8.2 What is the 20th number in the same pattern? Show your working. **(2)**

9 Equivalent number sentences

3 marks

9.1 Which one is the same as 25×27? **(1)**

a. $25 + 27$ b. $(25 \times 20) + (25 \times 7)$ c. $(25 \times 27) + 1$

9.2 Write a number sentence that gives the same answer as 18×6 but is easier to work out. Explain. **(2)**

Total **42 marks**



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