



GRADE 4 / WATCH MR DJ SOLVE

NUMBER AND SHAPE PATTERNS

Start with the same example used in the lesson slides.

**WATCH MR DJ SOLVE****Start at 2. Add 3 each time. Write the first six terms, counting the start as term 1.**

- 1** Term 1 is 2.
- 2** Add 3 repeatedly.
- 3** Term 6 = $2 + 5 \times 3 = 17$.

Answer: **2, 5, 8, 11, 14, 17****REMEMBER** State the rule, count the starting term, and explain features that the rule creates.

Read each step and explain why it is valid. The next pages demonstrate the methods in more detail. Then use the large work areas on the numbered practice pages.

GRADE 4 / WORKED METHODS

NUMBER AND SHAPE PATTERNS

Read a complete example before trying the matching method.



Use these examples as a reference. Keep each quantity and its unit visible. A different valid method is welcome unless a question specifically requests one.

Count jumps after the starting term**2, 5, 8, 11, 14, 17**

1. Term 1 is 2.
2. Each next term adds 3.
3. Term 6 uses five jumps: $2 + 5 \times 3 = 17$.

Term 1 is the starting value

2, 5, 8, 11, 14, 17

Term 6 = 2 + five jumps of 3



GRADE 4 / WORKED METHODS

NUMBER AND SHAPE PATTERNS

Read a complete example before trying the matching method.



Use these examples as a reference. Keep each quantity and its unit visible. A different valid method is welcome unless a question specifically requests one.

Grow a row of touching squares

n squares need $3n + 1$ sticks

1. First square needs 4 sticks.
2. Each extra square adds 3 because it shares a side.
3. For 5 squares: $4 + 4 \times 3 = 16$.



GRADE 4 / PRACTICE

NUMBER AND SHAPE PATTERNS

Show the method, label your work, and explain the reasoning requested.



Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

1. Term 1 is 2; the rule is add 3. Find term 10 without listing all ten.

Grid area for working out the solution to Question 1.

My answer / conclusion: _____

2. A pattern is 2, 5, 8, 11. Give a rule and the next two terms.

Grid area for working out the solution to Question 2.

My answer / conclusion: _____



GRADE 4 / PRACTICE

NUMBER AND SHAPE PATTERNS

Show the method, label your work, and explain the reasoning requested.



Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

Medium

3. A growing row of touching squares uses 4 sticks for 1 square and 7 for 2. Find sticks for 3, 4 and 5 squares.

Grid area for working out the solution to Question 3.

My answer / conclusion: _____

Medium

4. Start at 2; add 3. Predict whether term 5 is odd or even. Explain with jumps.

Grid area for working out the solution to Question 4.

My answer / conclusion: _____



Date _____

NUMBER AND SHAPE PATTERNS

A cartoon fox mascot with orange fur, large eyes, and a purple collar, holding a yellow pencil.

Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

Medium 5. A shape pattern repeats triangle, square, circle. What shapes are at positions 10 and 12?

My answer / conclusion: _____

6. Does “add 3” always produce odd terms? Give evidence and explain the actual parity pattern.

My answer / conclusion: _____

GRADE 4 / PRACTICE

NUMBER AND SHAPE PATTERNS

Show the method, label your work, and explain the reasoning requested.



Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

Spicy

7. The first three terms are 2, 4, 6. Give two different rules fitting them but producing different fourth terms.

My answer / conclusion: _____



GRADE 4 / PRACTICE

NUMBER AND SHAPE PATTERNS

Show the method, label your work, and explain the reasoning requested.



Use the worked-method reference when helpful. Use the included method reference. Show the requested method, then check your answer. Reasoning questions need evidence and an explanation.

Extra Spicy

8. For a touching-square stick pattern, a student uses $4n$ sticks for n squares. Explain the overcount and repair the rule.

My answer / conclusion: _____