MeerkatSkool

FREE PRACTICE SHEET

Extra Maths Class

Free Extra Maths Class · Grade 5

Number patterns

Name: _____

Remember: Subtract each number from the next one to find the jump. **Why?** If the jump is the same every time, you know the rule and can predict any number in the pattern without writing them all. A flow diagram applies the rule to every input.

1 Write the next two numbers: 14, 21, 28, 35, ___, ___

2 Write the next number: 250, 225, 200, 175, ___

3 What is the rule, and what is the next number? 6, 12, 24, 48, ___

4 Write the next number: 1 005; 1 105; 1 205; ___

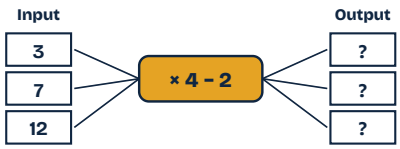
5 Find the missing number: 17, ___, 41, 53, 65

6 Write the next number: 2, 3, 5, 8, 12, 17, ___

7 Describe the rule in words: 5, 11, 17, 23 ...

8 What is the 10th number in the pattern 5, 11, 17, 23 ...?

9 Complete the flow diagram.



10 Which rule fits the table: × 5 + 1, × 4 + 3 or + 9?

Input	2	5	8
Output	11	26	41

11 The rule is × 6 + 3. The output is 45. What was the input?

12 Look at the matchstick pattern. How many matchsticks do you need for **4** triangles?



13 How many matchsticks do you need for **10** triangles?

14 How many triangles can you make with 41 matchsticks?

15 In the pattern 3, 6, 12, 24 ... every number doubles. What is the first number in the pattern that is bigger than 500?

I got ___ out of 15 ★ ★ ★

Verduidelik stap vir stap / Explained step by step: meerkatskool.co.za

meerkatskool.co.za/grade-5-extra-maths-class-number-patterns

Free Extra Maths Class · Grade 5 · Memorandum

Memorandum: Number patterns

1. **42, 49**
   Add 7 each time
2. **150**
   Subtract 25 each time
3. **multiply by 2; 96**
   6 × 2 = 12, 12 × 2 = 24 ...
4. **1 305**
   Add 100 each time
5. **29**
   The jump is 53 − 41 = 12; 17 + 12 = 29
6. **23**
   The jumps are +1, +2, +3, +4, +5, so the next is +6
7. **Start at 5 and add 6 each time.**
   11 − 5 = 6; 17 − 11 = 6; 23 − 17 = 6
8. **59**
   From the 1st to the 10th number is 9 jumps: 5 + 9 × 6 = 59
9. **10, 26, 46**
   3 × 4 − 2 = 10; 7 × 4 − 2 = 26; 12 × 4 − 2 = 46
10. **× 5 + 1**
    2 × 5 + 1 = 11; 5 × 5 + 1 = 26; 8 × 5 + 1 = 41 ✓ (× 4 + 3 gives 23 for 5)
11. **7**
    Work backwards: 45 − 3 = 42; 42 ÷ 6 = 7
12. **9**
    3, 5, 7 ...: every new triangle needs 2 more matchsticks, because it shares a side; 7 + 2 = 9
13. **21**
    Rule: 2 × triangles + 1 = 2 × 10 + 1 = 21
14. **20**
    Work backwards: 41 − 1 = 40; 40 ÷ 2 = 20
15. **768**
    3, 6, 12, 24, 48, 96, 192, 384, 768