MATHEMATICS · KINDERGARTEN TO GRADE 3

Number sequences and patterns

Difficulty level: Easy

Mathematics: Kindergarten to Grade 3

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Overview of the concept

This is how you spot the pattern in counting, like counting by twos when you hand out pairs of socks or by fives when you count nickels. A shopkeeper counts change in fives and tens, and a coach counts players in pairs to make even teams. Skip counting like this is the shortcut behind multiplication, and you use it every time you count chairs set out in rows or steps on a staircase. Once the pattern is clear, counting a big pile becomes quick and hard to mess up.

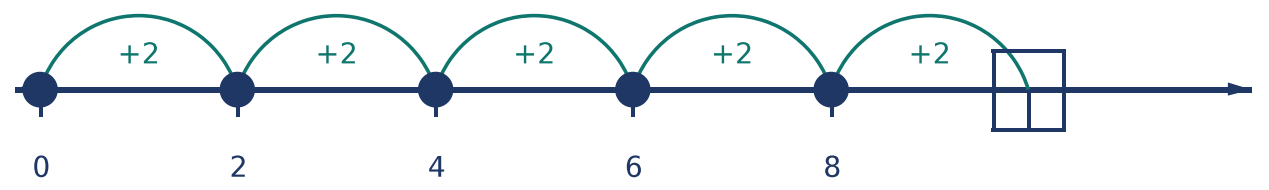


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Worked examples

EXAMPLE 1

Q What comes next in the pattern 2, 4, 6, 8?



SOLUTION

Look at the jump from one number to the next. Each jump is 2, the same size every time, so this is a count-by-2s pattern.

8 + 2 = 10

The next number is 10.

EXAMPLE 2

Q What comes next in the pattern 2, 4, 8, 16?

SOLUTION

Check the jumps: 2 to 4 is 2, 4 to 8 is 4, 8 to 16 is 8. The jump doubles each time instead of staying the same, so this is not an add-the-same-number pattern. Each number is twice the one before it.

16 × 2 = 32

The next number is 32.

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Practice questions

1 What comes next 3, 6, 9, 12, ?

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2 In the pattern 10, 20, 30, 40, what number do you add each time?

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3 What is the missing number 4, 8, ?, 16, 20?

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4 Count backwards by 2s 20, 18, 16, ?

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5 In the count-by-4s pattern 4, 8, 12, 16, 20, what comes before 20?

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6 What comes next 3, 9, 27, 81, ?

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7 **Why is 2, 4, 8, 16, 32 not an add-the-same-number pattern?**

- **A** The gap doubles each time
- **B** The gap stays the same each time
- **C** The gap gets smaller each time
- **D** There is no gap

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8 **Sequence A is 5, 10, 15, 20. Sequence B is 5, 10, 20, 40. Which one adds the same number each time?**

- **A** Sequence B
- **B** Sequence A
- **C** Both sequences
- **D** Neither sequence

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9 **How much is saved after 6 weeks at $5 a week?**

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10 **What is the 5th number in the count-by-5s pattern starting at 5?**

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ANSWER KEY

1. 15

2. 10

3. 12

4. 14

5. 16

6. 243

7. The gap doubles each time

8. Sequence A

9. 30

10. 25

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