

Grade 5 · Patterns and Relationships · Test

Common Core 5.OA.B.3 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This test has 8 questions and is worth 20 points. It covers generating two numerical patterns from rules, finding relationships between corresponding terms, and writing and graphing ordered pairs (5.OA.B.3). Show your work, and allow about 45 minutes.

Test information

- **Grade:** Grade 5
- **Chapter:** Patterns and Relationships
- **Common Core:** 5.OA.B.3
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 3 pts; Question 2: 2 pts; Question 3: 3 pts; Question 4: 3 pts; Question 5: 2 pts; Question 6: 3 pts; Question 7: 2 pts; Question 8: 2 pts)

Question 1: Generate two patterns (3 points)

Pattern A starts at 0 and follows the rule "add 4." Pattern B starts at 0 and follows the rule "add 12."

- Write the first five terms of pattern A. (1 point)
- Write the first five terms of pattern B. (1 point)
- Describe how corresponding terms are related. (1 point)

Question 2: Complete the table (2 points)

Two patterns both start at 0. Complete the table.

Term number	1	2	3	4	5
A	0	5	10		20
B	0	15		45	60

Pattern A and pattern B.

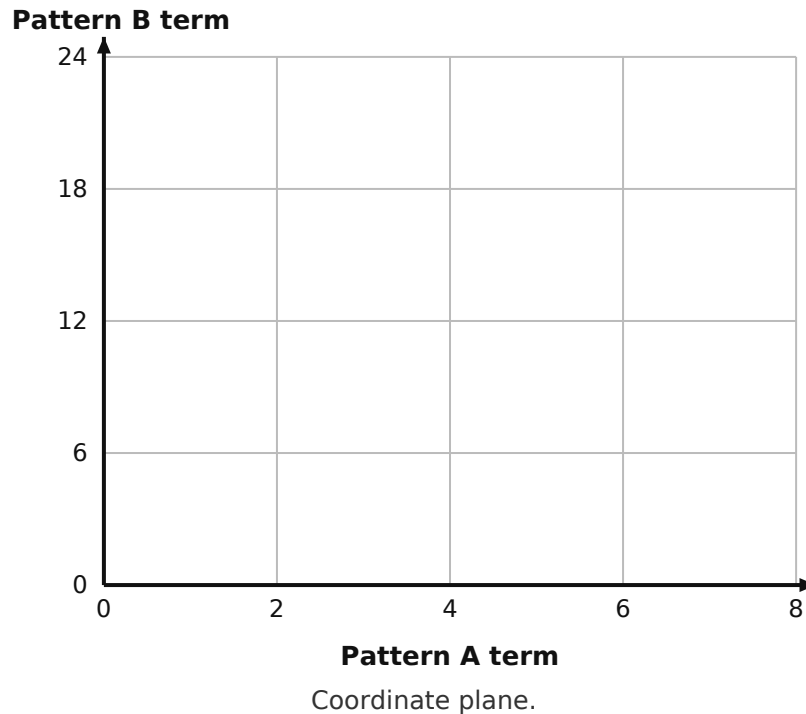
- Find the two missing terms. (1 point)

- b. Describe how each term of B is related to the corresponding term of A. (1 point)

Question 3: Ordered pairs and graph (3 points)

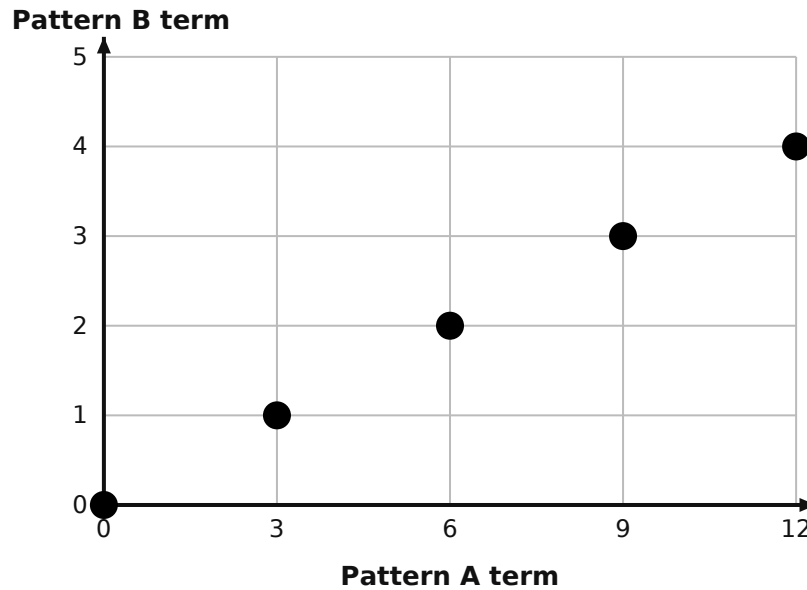
Pattern A starts at 0 and adds 2. Pattern B starts at 0 and adds 6.

- a. Write the ordered pairs formed by the first five corresponding terms. (1 point)
b. Plot the five ordered pairs on the grid. (2 points)



Question 4: Read a graph (3 points)

The graph shows points made from corresponding terms of pattern A (across) and pattern B (up).



- Write the five ordered pairs. (1 point)
- Write a rule for each pattern. (1 point)
- Describe how each term of A is related to the corresponding term of B. (1 point)

Question 5: Is it a pair? (2 points)

Pattern A starts at 0 and adds 2. Pattern B starts at 0 and adds 4. Decide whether each ordered pair is formed by corresponding terms. Explain each answer.

- (14,28) (1 point)
- (10,18) (1 point)

Question 6: Weekly savings (3 points)

Aisha and Ethan each start with \$0. Aisha adds \$3 each week. Ethan adds \$9 each week.

- Write the first five amounts for each person. (1 point)
- Write the ordered pairs (Aisha, Ethan). (1 point)
- Describe the relationship. Then find how much Ethan has when Aisha has \$12. (1 point)

Question 7: Different starting numbers (2 points)

Pattern A starts at 1 and adds 3. Pattern B starts at 2 and adds 6.

- Write the first five terms of each pattern. (1 point)
- Describe how corresponding terms are related. (1 point)

Question 8: Find the mistake (2 points)

Pattern A starts at 0 and adds 5. Pattern B starts at 0 and adds 10. Mei says, "Each term of B is 5 more than the corresponding term of A."

- a. Explain why Mei is wrong. *(1 point)*
- b. State the correct relationship. *(1 point)*