

Pattern Pair Power

Build patterns, match terms, and plot pairs.

GRADE 5 • 5.OA.B.3

CCSS.Math.Content.5.OA.B.3 "Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns..."

NAME _____

DATE _____

MATCH THE TERMS

Make both patterns with the same number of terms. Match terms in the same position, then write each match as an ordered pair, (first pattern, second pattern).

WORKED EXAMPLE

Pattern A starts at 10 and adds 5.
Pattern B starts at 20 and adds 10.
Make 4 terms, ordered pairs, and a relationship.

1. A: 10, 15, 20, 25
2. B: 20, 30, 40, 50
3. Pairs: (10,20), (15,30), (20,40), (25,50)
4. Each B term is twice its A term.

Answer: $B = 2 \times A$

PRACTICE 5 problems

- 1** A starts at 0, add 3. B starts at 1, add 6.
Write 4 terms and describe B.

ANSWER _____

- 2** A starts at 4, add 4. B starts at 9, add 4.
Write 4 terms and describe B.

ANSWER _____

- 3** A starts at 4, add 4. B starts at 2, add 2.
Write 4 ordered pairs. Graph them.

ANSWER _____

- 4** A starts at 9, add 5. B starts at 4, add 5.
Write 4 terms and describe B.

ANSWER _____

- 5** A starts at 3, add 3. B starts at 8, add 3.
Write 4 ordered pairs. Graph them.
Describe B.

ANSWER _____

APPLY IT Show your work

1

Ava has 1 badge point on Monday and earns 2 points each day. Ben has 8 badge points on Monday and earns 4 points each day. List their points for 3 days, make ordered pairs, and describe Ben's points.

WORK SPACE

ANSWER _____

2

Mia starts a game with 8 tokens and earns 3 tokens each round. Jay starts with 3 tokens and earns 3 tokens each round. List totals for 4 rounds, make ordered pairs, and describe Mia's totals.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A starts at 1, add 4. B starts at 8, add 8. Write 4 terms and ordered pairs. Explain why B is always 6 more than twice A.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A starts at 0, add 3. B starts at 1, add 6. Write 4 terms and describe B.	A: 0, 3, 6, 9. B: 1, 7, 13, 19. B is 1 more than twice A.
2	A starts at 4, add 4. B starts at 9, add 4. Write 4 terms and describe B.	A: 4, 8, 12, 16. B: 9, 13, 17, 21. B is 5 more than A.
3	A starts at 4, add 4. B starts at 2, add 2. Write 4 ordered pairs. Graph them.	(4,2), (8,4), (12,6), (16,8)
4	A starts at 9, add 5. B starts at 4, add 5. Write 4 terms and describe B.	A: 9, 14, 19, 24. B: 4, 9, 14, 19. B is 5 less than A.
5	A starts at 3, add 3. B starts at 8, add 3. Write 4 ordered pairs. Graph them. Describe B.	Pairs: (3,8), (6,11), (9,14), (12,17). B is 5 more than A.

PART 2 • APPLY IT

- Ava: 1, 3, 5. Ben: 8, 12, 16. Pairs: (1,8), (3,12), (5,16). Ben has 6 more than twice Ava's points.** Generate both three-term patterns. Compare each Ben term to twice the matching Ava term.
- Mia: 8, 11, 14, 17. Jay: 3, 6, 9, 12. Pairs: (8,3), (11,6), (14,9), (17,12). Mia has 5 more tokens than Jay.** Both patterns increase by 3 each round. The starting totals differ by 5, so the difference stays 5.

CHALLENGE

A: 1, 5, 9, 13. B: 8, 16, 24, 32. Pairs: (1,8), (5,16), (9,24), (13,32). At the first term, B is 6 more than twice A. Each new B term rises by 8, and twice each new A term also rises by 8.

Accept equivalent relationship statements or equations. Ordered pairs must use Pattern A as the first coordinate and Pattern B as the second coordinate.