

Pattern Pair Power

Build two patterns and compare matching terms.

GRADE 5 • 5.PAR.6.1

5.PAR.6.1 "Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms by completing a table."

NAME _____

DATE _____

MATCH THE TERMS

Use each rule to list terms in order. Compare terms in the same position. Describe how to change a term in Pattern A to get the matching term in Pattern B.

WORKED EXAMPLE

Pattern A starts at 3 and adds 6.
Pattern B starts at 10 and adds 12.
Write the first four terms and describe the relationship.

1. Pattern A: 3, 9, 15, 21.
2. Pattern B: 10, 22, 34, 46.
3. Double each Pattern A term, then add 4.

Answer: A: 3, 9, 15, 21; B: 10, 22, 34, 46. Pattern B is double Pattern A plus 4.

PRACTICE 5 problems

- 1** A starts at 8 and adds 5. B starts at 16 and adds 5. Write the first five terms. How are matching terms related?

ANSWER _____

- 2** A starts at 11 and adds 8. B starts at 27 and adds 16. Write the first five terms. How are matching terms related?

ANSWER _____

- 3** A starts at 16 and adds 7. B starts at 37 and adds 14. Write the first five terms. How are matching terms related?

ANSWER _____

- 4** A starts at 17 and adds 8. B starts at 24 and adds 8. Write the first five terms. How are matching terms related?

ANSWER _____

- 5** A starts at 11 and adds 5. B starts at 62 and adds 25. Write the first five terms. How are matching terms related?

ANSWER _____

APPLY IT Show your work

- 1** At a gaming club, Lee earns 11 tickets in the first week and 5 more tickets each week. Sam earns 18 tickets in the first week and 5 more tickets each week. List the totals for the first five weeks. How are their matching totals related?

WORK SPACE

ANSWER _____

- 2** For a pet shelter drive, Noor collects 14 cans on the first day and 7 more cans each day. Eli collects 33 cans on the first day and 14 more cans each day. List the totals for the first five days. How are their matching totals related?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A starts at 8 and adds 5. B starts at 47 and adds 25. Write the first five terms. Explain how to change any Pattern A term into the matching Pattern B term.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A starts at 8 and adds 5. B starts at 16 and adds 5. Write the first five terms. How are matching terms related?	A: 8, 13, 18, 23, 28; B: 16, 21, 26, 31, 36. Pattern B is Pattern A plus 8.
2	A starts at 11 and adds 8. B starts at 27 and adds 16. Write the first five terms. How are matching terms related?	A: 11, 19, 27, 35, 43; B: 27, 43, 59, 75, 91. Pattern B is double Pattern A plus 5.
3	A starts at 16 and adds 7. B starts at 37 and adds 14. Write the first five terms. How are matching terms related?	A: 16, 23, 30, 37, 44; B: 37, 51, 65, 79, 93. Pattern B is double Pattern A plus 5.
4	A starts at 17 and adds 8. B starts at 24 and adds 8. Write the first five terms. How are matching terms related?	A: 17, 25, 33, 41, 49; B: 24, 32, 40, 48, 56. Pattern B is Pattern A plus 7.
5	A starts at 11 and adds 5. B starts at 62 and adds 25. Write the first five terms. How are matching terms related?	A: 11, 16, 21, 26, 31; B: 62, 87, 112, 137, 162. Pattern B is 5 times Pattern A plus 7.

PART 2 • APPLY IT

- Lee: 11, 16, 21, 26, 31; Sam: 18, 23, 28, 33, 38. Sam's total is Lee's total plus 7.** Add 5 for each new week in both patterns. Compare each pair of totals.
- Noor: 14, 21, 28, 35, 42; Eli: 33, 47, 61, 75, 89. Eli's total is double Noor's total plus 5.** Make each pattern by adding its daily amount. Double each Noor total, then add 5 to get the matching Eli total.

CHALLENGE

A: 8, 13, 18, 23, 28; B: 47, 72, 97, 122, 147. Multiply a Pattern A term by 5, then add 7.

Accept equivalent relationship wording, such as "add 8" or "8 more." Students may list terms in a table or in ordered lists.