LESSON MAKER PRO

Pattern Pairs

Build two patterns and compare matching terms.

GRADE 5 · 5.AT.B.3.b

5.AT.B.3.b "Generate two numerical patterns using two given rules and identify relationships between corresponding terms."

NAME _____ DATE _____

MATCH THE STEPS

Start each pattern at step 0. Add its rule once to get step 1, then keep adding. Compare terms at the same step to find a relationship.

WORKED EXAMPLE

A starts at 13 and adds 11. B starts at 26 and adds 22. Compare their terms at steps 0, 1, and 2.

TWO PATTERNS

Step	A	B
0	13	26
1	24	48
2	35	70

1. A = 13 and B = 26.
2. 13 + 11 = 24 and 26 + 22 = 48.
3. 24 + 11 = 35 and 48 + 22 = 70.
4. At each step, B is twice A.

Answer: A: 13, 24, 35. B: 26, 48, 70. B is twice A.

PRACTICE 4 problems

1 A starts at 0 and adds 2. B starts at 0 and adds 6. Find both step 3 terms. How are they related?

ANSWER _____

2 A starts at 0 and adds 3. B starts at 0 and adds 9. Find both step 4 terms. How are they related?

ANSWER _____

3 A starts at 0 and adds 5. B starts at 0 and adds 10. Find both step 3 terms. How are they related?

ANSWER _____

4 A starts at 7 and adds 3. B starts at 16 and adds 3. Find both step 4 terms. How are they related?

ANSWER _____

APPLY IT Show your work

1 Mia wins 4 arcade tickets per game; Leo wins 12. Fill the table. How do their totals compare?

ARCADE TICKETS

Games	Mia	Leo
1	4	12
2		
3		

ANSWER _____

2 On day 0 of a food drive, one class has 5 cans and another has 14. Each class collects 6 more cans per day. How many does each have on day 4, and how do the totals compare?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A starts at 0 and adds 7. B starts at 5 and adds 14. Find both step 4 terms. Explain why B is always 5 more than twice A.

WORK SPACE AND ANSWER

ANSWER KEY

Pattern Pairs

GRADE 5 · 5.AT.B.3.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A starts at 0 and adds 2. B starts at 0 and adds 6. Find both step 3 terms. How are they related?	**A = 6; B = 18. B is three times A.**
2	A starts at 0 and adds 3. B starts at 0 and adds 9. Find both step 4 terms. How are they related?	**A = 12; B = 36. B is three times A.**
3	A starts at 0 and adds 5. B starts at 0 and adds 10. Find both step 3 terms. How are they related?	**A = 15; B = 30. B is twice A.**
4	A starts at 7 and adds 3. B starts at 16 and adds 3. Find both step 4 terms. How are they related?	**A = 19; B = 28. B is always 9 more than A.**

PART 2 · APPLY IT

1. **2 games: Mia 8, Leo 24. 3 games: Mia 12, Leo 36. Leo has three times as many tickets as Mia.** Add 4 to Mia's total and 12 to Leo's total for each new game. Compare their totals after the same number of games.
2. **The first class has 29 cans; the second has 38. The second class has 9 more cans.** Add 6 four times to each starting amount. Since both classes add the same amount each day, the difference stays 9.

CHALLENGE

At step 4, A = 28 and B = 61. B starts 5 above twice A, and each time B adds 14 while twice A increases by 14. The difference stays 5.

Accept equivalent wording for the relationships. Step 0 is the starting amount.