

Grade 5 - Patterns and Ordered Pairs - Answer Key

Common Core 5.OA.B.3 · maths-pdf.fr/en/

This answer key lists the terms, ordered pairs and relationships for all 20 pattern problems. Write the term from the first pattern first in every ordered pair. Check that your graphs show points that line up, which happens when each pattern adds the same amount every time.

Grade 5 · Common Core State Standards: **5.OA.B.3**

Exercise 1 - Add 5 pattern

Start at 0 and keep adding 5: 0,5,10,15,20,25.

Terms: **0, 5, 10, 15, 20, 25**

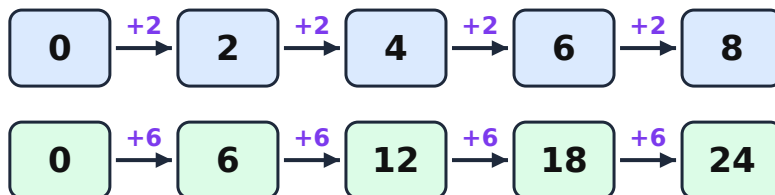
Exercise 2 - Add 4 pattern

$0+4=4$, $4+4=8$, $8+4=12$, $12+4=16$, $16+4=20$.

Terms: **0, 4, 8, 12, 16, 20**

Exercise 3 - Two rules

A: 0,2,4,6,8. B: 0,6,12,18,24.



Both patterns completed.

Answer: **A: 0, 2, 4, 6, 8; B: 0, 6, 12, 18, 24**

Exercise 4 - Write ordered pairs

Pair the terms in the same position. Put the A term first.

$(0,0), (3,9), (6,18), (9,27)$

Answer: $(0,0), (3,9), (6,18), (9,27)$

Exercise 5 - Fill in the table

A adds 5: $5+5=10$, so the missing A term is 10.

B adds 10: $20+10=30$, so the missing B term is 30.

Answer: **10 and 30**

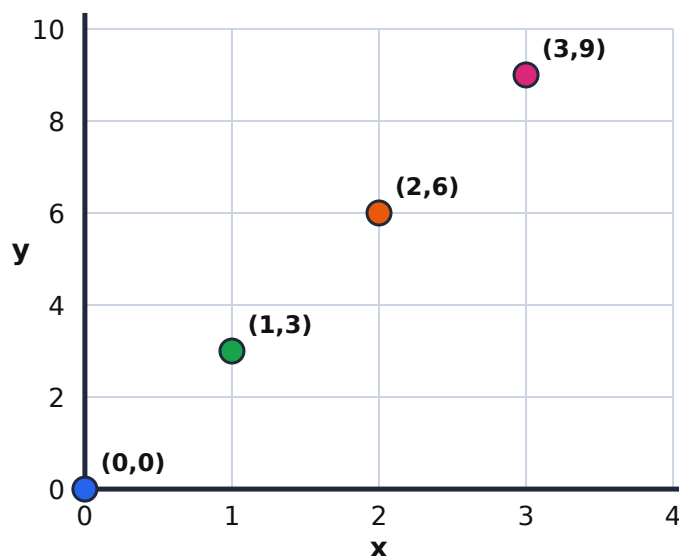
Exercise 6 - Compare terms

$12 \div 3 = 4$, $24 \div 6 = 4$, $36 \div 9 = 4$.

Each B term is **4 times** the corresponding A term.

Exercise 7 - Plot four points

For each pair, go right the first number and up the second number.



The four points.

Answer: **the four points lie on a straight line**

Exercise 8 - Write five pairs

A: 0,4,8,12,16. B: 0,8,16,24,32.

Answer: (0,0),(4,8),(8,16),(12,24),(16,32)

Exercise 9 - Find the missing pair

The second numbers go up by 6 each time: 0, 6, 12, ?, 24. So $12+6=18$.

Check: $18+6=24$.

Answer: (6,18)

Exercise 10 - Find the rules

The first numbers go up by 5. The second numbers go up by 10.

Rule for A: start at 0, add 5. Rule for B: start at 0, add 10.

Each B term is **2 times** its A term.

Exercise 11 - Smaller second pattern

A: 0,6,12,18. B: 0,3,6,9.

Pairs: (0,0),(6,3),(12,6),(18,9).

Each B term is half of its A term, or each A term is **2 times** its B term.

Exercise 12 - Read the graph

Pairs: (0,0),(2,5),(4,10),(6,15).

First numbers: start at 0, add 2. Second numbers: start at 0, add 5.

When the first number is 8: $15+5=20$.

Answer: **20**

Exercise 13 - Which pairs belong?

A: 0, 3, 6, 9, 12. B: 0, 6, 12, 18, 24.

(6,12): 6 is the third A term and 12 is the third B term. Yes.

(9,15): 9 is the fourth A term, but the fourth B term is 18. No.

(12,24): fifth A term 12, fifth B term 24. Yes.

Answer: (6,12) **and** (12,24)

Exercise 14 - Liam's pair

A: 0, 4, 8, ... B: 0, 8, 16, ...

When A is 4 (second term), B is 8 (second term), not 12. Liam added 8 and 4 instead of using the B pattern.

Correct pair: (4,8)

Exercise 15 - Farmers market apples

Bags: 0,1,2,3,4. Cost: 0,3,6,9,12.

Pairs: (0,0),(1,3),(2,6),(3,9),(4,12).

4 bags cost \$12.

Exercise 16 - Road trip

Hours: 0, 1, 2, 3, 4. Miles: 0, 50, 100, 150, 200.

Pairs: (0,0),(1,50),(2,100),(3,150),(4,200).

Miles after 5 hours: 250. After 6 hours: 300 (or $6 \times 50 = 300$).

Answer: **300 miles**

Exercise 17 - Water bottles

Games: 0, 2, 4, 6, 8, 10. Bottles: 0, 10, 20, 30, 40, 50.

Pair for 10 games: (10,50).

Answer: **50 bottles**

Exercise 18 - Cookie boxes

Cookies: 0, 6, 12, 18. Dollars: 0, 4, 8, 12.

Pairs: (0,0),(6,4),(12,8),(18,12).

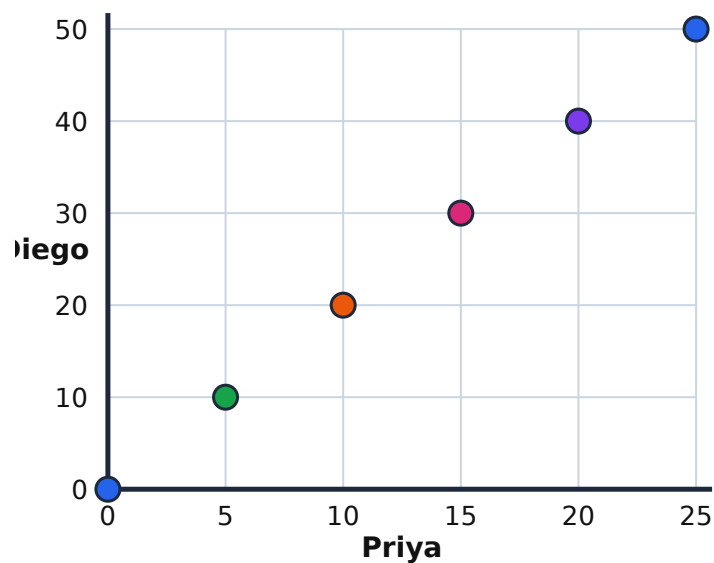
For 18 cookies she earns \$12.

Exercise 19 - Saving money

Priya: 0, 5, 10, 15, 20, 25. Diego: 0, 10, 20, 30, 40, 50.

Pairs: (0,0),(5,10),(10,20),(15,30),(20,40),(25,50).

Diego's total is always **2 times** Priya's total.



Diego's total is 2 times Priya's.

Exercise 20 - Bike ride

(a) Minutes: 0, 15, 30, 45, 60. Miles: 0, 3, 6, 9, 12. Pairs: $(0,0)$, $(15,3)$, $(30,6)$, $(45,9)$, $(60,12)$.

(b) Continue: 75 min is 15 miles, 90 min is 18 miles. **18 miles**

(c) 21 miles is $21 \div 3 = 7$ steps, so $7 \times 15 = 105$ minutes. **105 minutes**