

Grade 5 · Patterns and Relationships · Quiz

Common Core 5.OA.B.3 · mathovore.fr

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

Ten multiple-choice questions check how well you can generate patterns from rules, find relationships between corresponding terms, and read or plot ordered pairs. Choose the single best answer, then read the explanation to learn from any miss.

Grade 5 Common Core: 5.OA.B.3

Questions

Question 1

A pattern starts at 0 and follows the rule "add 4." What is the fifth term?

Rule: start at 0, add 4



The first five terms.

- A. 20
- B. 12
- C. 16
- D. 24

Question 2

Rule one begins with 0 and counts up by 5. Rule two begins with 0 and counts up by 15. What is the relationship between the terms that line up?

- A. Each term of rule two is 10 more than the term of rule one.
- B. Each term of rule two is one third of the term of rule one.
- C. Each term of rule two is 3 times the term of rule one.
- D. Each term of rule two is 5 times the term of rule one.

Question 3

Pattern A adds 5 and pattern B adds 10, both starting at 0. What is the missing term in B?

Term number	1	2	3	4	5
A: add 5	0	5	10	15	20
B: add 10	0	10		30	40

Find the missing term in the table.

- A. 15
- B. 20
- C. 25
- D. 30

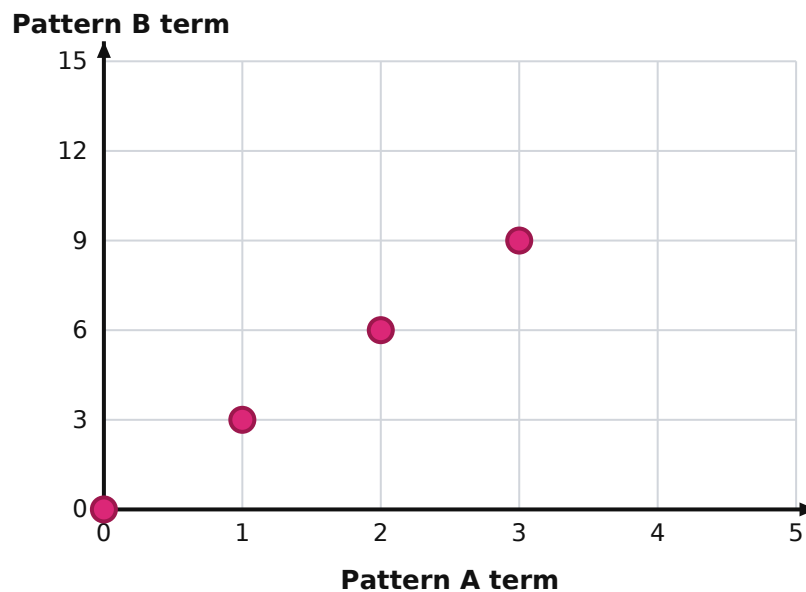
Question 4

Pattern A starts at 0 and adds 4. Pattern B starts at 0 and adds 10. Which ordered pair is formed by the second terms?

- A. (12,30)
- B. (4,10)
- C. (8,10)
- D. (8,20)

Question 5

The graph shows corresponding terms of two patterns. Which ordered pair is also on the pattern?



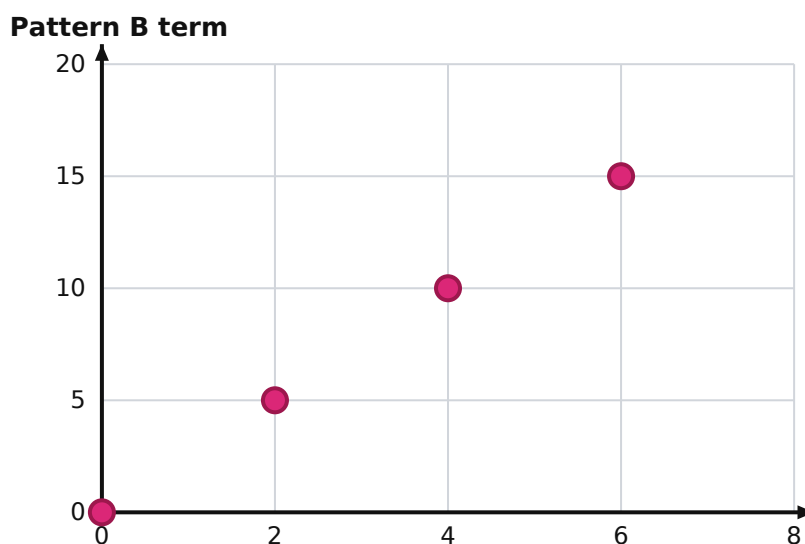
Four plotted points.

- A. (4,9)
- B. (5,12)

- C. (4,12)
- D. (4,10)

Question 6

In the graph, what rule do the y-coordinates follow?



Four plotted points.

- A. Start at 0, add 2
- B. Start at 0, add 5
- C. Start at 0, add 10
- D. Start at 5, add 5

Question 7

Pattern A is 0, 2, 4, 6. Pattern B is 1, 3, 5, 7. How are corresponding terms related?

- A. Each B term is 2 times the A term.
- B. Each B term is 1 less than the A term.
- C. Each B term is 2 more than the A term.
- D. Each B term is 1 more than the A term.

Question 8

Liam saves each week and Sofia saves each week. Both start at . How much does Sofia have when Liam has ?

Question 9

Both patterns start at 0. Which pair of rules makes every B term 3 times the A term?

- A. A: add 2, B: add 5
- B. A: add 2, B: add 6

C. A: add 3, B: add 6

D. A: add 6, B: add 2

Question 10

A pattern starts at 0 and adds 6. Which number is NOT a term in the pattern?

A. 40

B. 24

C. 30

D. 36

Answer key

1. **C** – The terms are 0, 4, 8, 12, 16, so the fifth term is 16. The number 20 is the sixth term, a common counting mistake.
2. **C** – The pairs are 5 and 15, 10 and 30, 15 and 45, so rule two is always 3 times rule one. "10 more" fits only the first pair.
3. **B** – B adds 10: $10+10=20$, and the next term $20+10=30$ matches. The number 15 is the matching A term.
4. **D** – The second term of A is 8 and the second term of B is 20, so the pair is (8,20). (4,10) comes from the first terms.
5. **C** – A adds 1 and B adds 3, so the next pair is $(3+1, 9+3)=(4,12)$.
6. **B** – The y-coordinates are 0, 5, 10, 15, which go up by 5 each time. The x-coordinates go up by 2.
7. **D** – Compare each pair: 0 and 1, 2 and 3, 4 and 5, 6 and 7. B is always 1 more than A.
8. **A** – Liam reaches in week 4. Sofia's 4th amount is . The amount is Sofia's amount when Liam has .
9. **B** – B must add 3 times as much as A. Adding 6 is 3 times adding 2. The pair "add 3, add 6" gives 2 times.
10. **A** – The terms are 0, 6, 12, 18, 24, 30, 36, 42. The number 40 is skipped.

Remember:

- A numerical pattern is a list of terms that follows a rule, such as "start at 0, add 3."
- Corresponding terms are in the same position in two patterns.
- Compare every pair of corresponding terms to find a relationship, such as "B is 2 times A."
- An ordered pair (x,y) is written with the term from pattern A first and the term from pattern B second.
- To graph (x,y) , move right x units from the origin, then up y units.