



**THIRD SPACE  
LEARNING**

# Number Patterns

## Check for Understanding

A 10 question retrieval quiz for  
students in grades 4 and 5.

**Grades 4 to 5**

## Questions

Name: .....

Class: .....

Date: .....

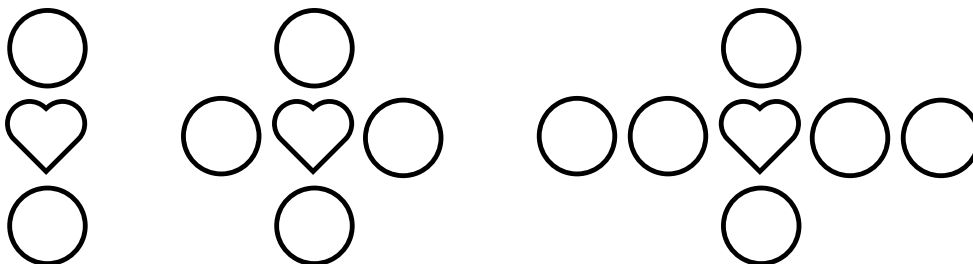
Score: .....

1 What is the next shape in the pattern?



Answer

2 What is the next shape in the growing pattern?



Answer

## Check for Understanding | 4th to 5th Grade | Number Patterns

3 What is the next term in the pattern?

2,500, 500, 100, 20...

Answer

4 What is the first term in the pattern?

, 44, 53, 62, 71, 80

5 Which number does not belong in the sequence? Why?

1, 4, 7, 10, 13, 17, 19

because .....

.....

6 Sequence A: 0, 4, 8, 12, 16

Sequence B: 0, 8, 16, 24, 32

Describe the relationships between the two sequences

.....

.....

- 7 Fill in the missing values in the table and identify the rule.

| Input | Output |
|-------|--------|
| 2     | 10     |
| 4     | 20     |
| —     | 25     |
| 8     | —      |

Rule:

- 8 Fill in the missing values in the table and identify the rule.

| Input | Output |
|-------|--------|
| 23    | 9      |
| 33    | 19     |
| 45    | —      |
| —     | 0      |

Rule:



9 The Sanderson Family Farm sells 6 crates of apples and 18 crates of tomatoes to local markets per day. Complete the table and describe the pattern between the crates of apples and the crates of tomatoes.

| Day | Crates of Apples | Crates of Apples |
|-----|------------------|------------------|
| 1   | 6                | 18               |
| 2   | 12               |                  |
| 3   |                  | 54               |
| 4   | 24               |                  |

Answer


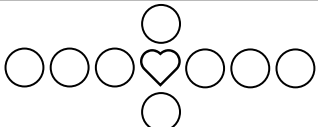
Pattern:

10

|                       |   |   |   |    |
|-----------------------|---|---|---|----|
| Pattern N (rule : +2) | 0 | 2 | 4 | 6  |
| Pattern M (rule : +4) | 0 | 4 | 8 | 12 |

Write a statement comparing pattern N to pattern M.

## Answers

| Question number | Question  | Answers   | Standard |
|-----------------|---|---|----------|
| 1               | What is the next shape in the pattern?  |    | 4.OA.C.5 |
| 2               | What is the next shape in the growing pattern?                                |   | 4.OA.C.5 |
| 3               | What is the next term in the pattern?<br>2,500, 500, 100, 20...               | 4   | 4.OA.C.5 |
| 4               | What is the first term in the pattern?<br>?, 44, 53, 62, 71, 80               | 35  | 4.OA.C.5 |
| 5               | Which number does not belong in the sequence? Why?<br>1, 4, 7, 10, 13, 17, 19 | 17 does not belong because the sequence alternates odd and even, but 17 is not even.<br>OR<br>The rule is +3, but $13 + 3$ is not 17.<br>That term should be 16.<br>*Answers may vary, but should either name the rule of +3 or the pattern of odd/even alternating terms | 4.OA.C.5 |

| Question number | Question   | Answers  | Standard             |        |    |    |    |    |    |    |    |    |          |
|-----------------|--|--|----------------------|--------|----|----|----|----|----|----|----|----|----------|
| 6               | Sequence A: 0, 4, 8, 12, 16<br>Sequence B: 0, 8, 16, 24, 32<br>Describe the relationships between the two sequences. | Sequence A is always half of sequence B, since sequence A adds 4 each time and sequence B adds 8, which is double.<br>*Answers may vary, but should identify that B is the double of A, because +8 is the double of +4 | 4.OA.C.5<br>5.OA.B.3 |        |    |    |    |    |    |    |    |    |          |
| 7               | Fill in the missing values in the table and identify the rule.   | <table><tr><th>Input</th><th>Output</th></tr><tr><td>2</td><td>10</td></tr><tr><td>4</td><td>20</td></tr><tr><td>5</td><td>25</td></tr><tr><td>8</td><td>40</td></tr></table> <p>Rule: Multiply by 5</p>               | Input                | Output | 2  | 10 | 4  | 20 | 5  | 25 | 8  | 40 | 4.OA.C.5 |
| Input           | Output   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 2               | 10   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 4               | 20   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 5               | 25   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 8               | 40   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 8               | Fill in the missing values in the table and identify the rule.   | <table><tr><th>Input</th><th>Output</th></tr><tr><td>23</td><td>9</td></tr><tr><td>33</td><td>19</td></tr><tr><td>45</td><td>31</td></tr><tr><td>14</td><td>0</td></tr></table> <p>Rule: Subtract 14</p>               | Input                | Output | 23 | 9  | 33 | 19 | 45 | 31 | 14 | 0  | 4.OA.C.5 |
| Input           | Output   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 23              | 9  |  |                      |        |    |    |    |    |    |    |    |    |          |
| 33              | 19   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 45              | 31   |  |                      |        |    |    |    |    |    |    |    |    |          |
| 14              | 0  |  |                      |        |    |    |    |    |    |    |    |    |          |

## Check for Understanding | 4th to 5th Grade | Number Patterns | Answers




| Question number | Question  | Answers  | Standard |
|-----------------|---|--|----------|
| 9               | The Sanderson Family Farm sells 6 crates of apples and 18 crates of tomatoes to local markets per day. Complete the table and describe the pattern between the crates of apples and the crates of tomatoes. | 36<br>18<br>72<br>Pattern: The crates of apples are always 3 times the crates of tomatoes.   | 5.OA.B.3 |
| 10              | Write a statement comparing pattern N to pattern M.   | Pattern M is always double Pattern N, because +4 is adding 2 times as many as adding +2.<br>*Answers may vary, but should identify that M is the triple of A, because +4 is the double of +2 | 5.OA.B.3 |

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