

Grade 3 · Properties of Multiplication · Test

Common Core 3.OA.B.5 · mathovore.fr

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

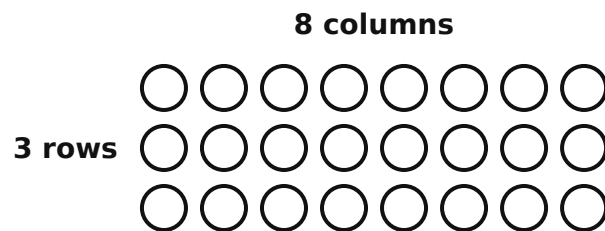
This test has 8 questions worth 20 points in all. Use pencil and show your work. You may draw pictures. You should finish in about 45 minutes. Check each answer before you move on.

Test information

- **Grade:** Grade 3
- **Chapter:** Properties of Multiplication
- **Common Core:** 3.OA.B.5
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 3 pts; Question 6: 3 pts; Question 7: 3 pts; Question 8: 3 pts)

Question 1: Turn-around facts (2 points)

Look at the array.



An array with 3 rows and 8 columns.

- Write a multiplication sentence for the array. (1 point)
- Turn the array and write a different multiplication sentence for it. (1 point)

Question 2: Fill in the blanks (2 points)

- $9 \times 6 = 6 \times ?$ (1 point)
- $? \times 4 = 4 \times 7$ (1 point)

Question 3: Equal or not equal (2 points)

Write the words equal or not equal for each pair of products.

- a. 7×3 and 3×7 (1 point)
- b. 6×4 and 5×5 (1 point)

Question 4: Group three factors (2 points)

Find each product.

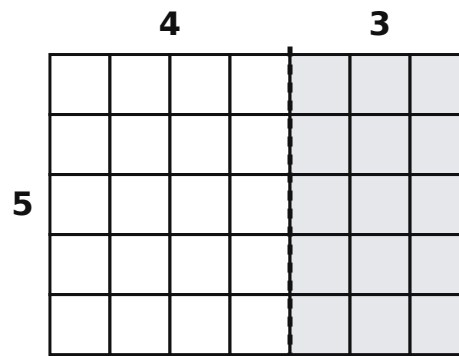
$$\boxed{(3 \times 2)} \times \boxed{5}$$
$$\boxed{3} \times \boxed{(2 \times 5)}$$

Two groupings of the same three factors.

- a. $(3 \times 2) \times 5$ (1 point)
- b. $3 \times (2 \times 5)$ (1 point)

Question 5: Area model (3 points)

The rectangle is made of unit squares.



A rectangle with 5 rows, split into a left part and a right part.

- a. Write a multiplication sentence for the left part. (1 point)
- b. Write a multiplication sentence for the right part. (1 point)
- c. How many squares are in the whole rectangle? (1 point)

Question 6: Break apart a factor (3 points)

Use the distributive property to find 8×7 . Show each step.

Question 7: Crayon shelves (3 points)

A school has 2 shelves. Each shelf has 5 boxes. Each box holds 7 crayons.

- a. Write a multiplication expression for the total number of crayons. *(1 point)*
- b. How many crayons are there in all? *(2 points)*

Question 8: Flower rows (3 points)

Aisha plants 6 rows of 8 flowers. Noah plants 8 rows of 6 flowers.

- a. How many flowers does each child plant? *(1 point)*
- b. Who plants more flowers? *(1 point)*
- c. Name the property that explains your answer. *(1 point)*