MATHEMATICS · KINDERGARTEN TO GRADE 3

Multiplying by 0 and 1

Difficulty level: Easy

Mathematics: Kindergarten to Grade 3

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Overview of the concept

This is how the shortcuts for zero and one work, so you know instantly that anything times zero is zero and anything times one stays itself, like an empty cart costing nothing. Zero wipes a number out and one leaves it alone, and knowing that by heart saves you work on every calculation they appear in. You use it when you work out the cost of an empty order, when a discount takes a price to zero, or when you check a calculation and one of the numbers is zero or one.



Rule

Anything times 0 is 0, and anything times 1 is itself.

Zero wipes a number out, and one leaves it alone.

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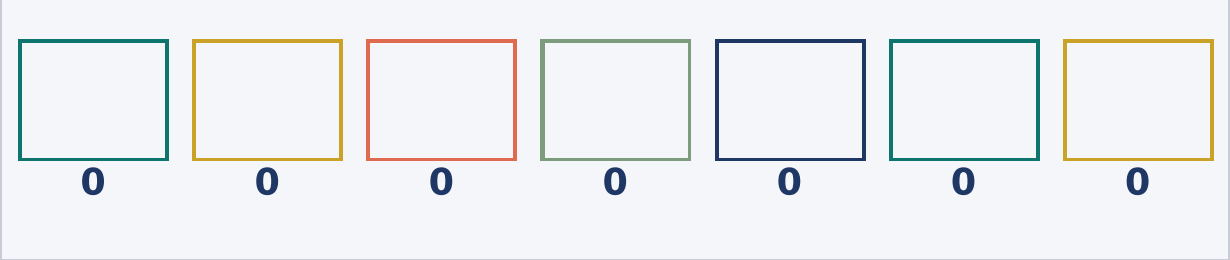
Worked examples

EXAMPLE 1

Q What is 7 × 0?



SOLUTION

Any number times 0 comes out as 0. Seven groups with nothing in each group is nothing in all.

$7 \times 0 = 0$

EXAMPLE 2

Q What is 9 × 1?

SOLUTION

Any number times 1 stays itself. Nine groups with one in each group is nine in all.

$9 \times 1 = 9$

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Practice questions

1 What is 6×0?

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2 What is 8×1?

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3 Which property does $5 \times 0 = 0$ show: the zero property or the identity property?

A. The zero property

B. The identity property

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4 **Which property does 7 × 1 = 7 show: the zero property or the identity property?**

A The zero property

B The identity property

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5 **Which of these equals 0?**

A 9 × 0

B 9 × 1

C 0 + 9

D 9 - 0

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6 If $a \times 0 = 0$, what is $a \times 1$?

- **A** a
- **B** 0
- **C** 1
- **D** a^2

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7 There are 4 empty plates with 0 cookies on each plate. How many cookies are there?

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8 Each of 5 boxes holds 1 pencil. How many pencils are there?

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9 What is $17 \times 1 + 3 \times 0$?

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10 Which equation is wrong?

A $4 \times 0 = 0$

B $4 \times 1 = 4$

C $4 \times 0 = 4$

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ANSWER KEY

1. 0

2. 8

3. The zero property

4. The identity property

5. 9×0

6. a

7. 0

8. 5

9. 17

10. $4 \times 0 = 4$

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