MATHEMATICS · GRADES 4-6

Long division

Difficulty level: Intermediate

Mathematics: Grades 4-6

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Overview of the concept

This is how you split a big number into equal groups, like sharing 96 cupcakes fairly among 4 classes when the answer is too big to guess. Long division breaks a big sharing job into small steps you can do one at a time, so you never have to guess the whole answer at once. You use it to split a bill between friends, to share out supplies for a class, or to work out how many boxes you need when each box holds the same amount.



Rule

Long division repeats the same four steps: divide, multiply, subtract, bring down.

Work one digit at a time from the left, and repeat until there is nothing left to bring down.

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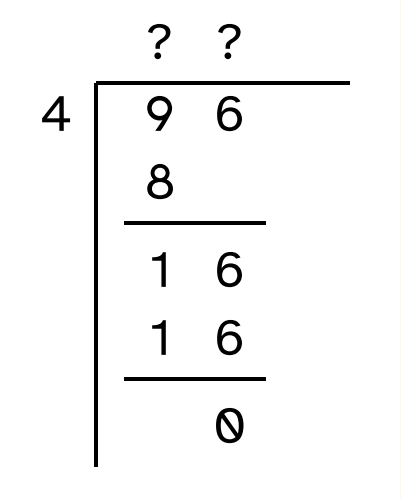
Worked examples

EXAMPLE 1

Q $96 \div 4 = ?$



SOLUTION

Tens: 9 ÷ 4 = 2, remainder 1. Write 2 above the 9, then 2 × 4 = 8.

Bring down the 6 to make 16. Ones: 16 ÷ 4 = 4. Write 4 above the 6.

4 × 4 = 16, subtract to get 0. Total: 24

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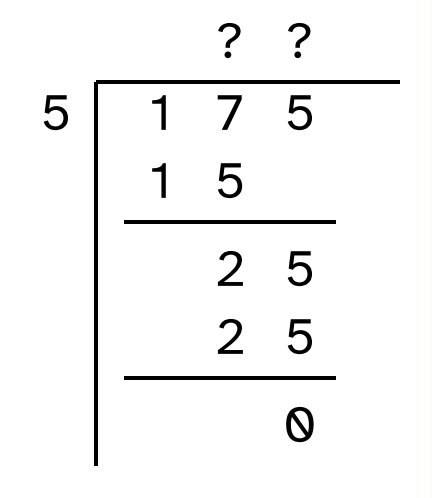
EXAMPLE 2

Q 175 ÷ 5 = ?



SOLUTION

First two digits: 17 ÷ 5 = 3, remainder 2. Write 3, then 3 × 5 = 15.

Bring down the 5 to make 25. Ones: 25 ÷ 5 = 5. Write 5.

5 × 5 = 25, subtract to get 0. Total: 35

Practice questions

1 **Share 84 stickers equally among 4 friends. How many stickers does each friend get?**

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2 A baker packs 96 buns into boxes of 8. How many boxes does she fill?

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3 A teacher has 125 m of rope and cuts it into 5 equal pieces. Which division finds the length of each piece?

A. 125 ÷ 5

B. 125 × 5

C. 125 − 5

D. 5 ÷ 125

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4 A baker has 100 buns and packs them into boxes of 8. How many full boxes does she fill, and how many buns are left over?

- **A** 12 boxes, 4 buns left over
- **B** 13 boxes, no buns left over
- **C** 12 boxes, 8 buns left over
- **D** 11 boxes, 4 buns left over

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5 Which multiplication checks that $189 \div 7 = 27$?

- **A** $27 \times 7 = 189$
- **B** $27 + 7 = 34$
- **C** 189×7
- **D** $189 - 27 = 162$

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6

Which is the best estimate of $412 \div 4$?

A 10

B 100

C 1000

D 40

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7

Share $10 equally among 4 friends. How much does each friend get?

A $2.25

B $2.50

C $2.75

D $4.00

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8 A train travels 315 km in 5 hours at a steady speed. How far does it travel in one hour?

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9 In 96 ÷ 4, the first step is 9 ÷ 4 = 2 remainder 1. What number do you bring down next?

- A 6
- B 9
- C 4
- D 2

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10

You need 145 eggs. They come in boxes of 6. How many boxes do you need?

A 24 boxes

B 25 boxes

C 24 boxes with 1 egg left over

D 26 boxes

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ANSWER KEY

1. 21

2. 12

3. 125 ÷ 5

4. 12 boxes, 4 buns left over

5. 27 × 7 = 189

6. 100

7. $2.50

8. 63

9. 6

10. 25 boxes

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