Long multiplication and long division

Column methods · Year 5–7 · ±14 min Hard

Name: ..... Date: .....

Today you learn: I can multiply by a two-digit number and divide with long division.

Remember

Multiply by a two-digit number in two steps: first × the ones, then × the tens (they are tens, so put a 0 on the end) and add the two lines. Long division: divide, multiply, subtract, bring down the next digit and start again. What is left at the end is the remainder, and it is always smaller than the number you divide by.

EXAMPLE

34 × 26 = 34 × 20 + 34 × 6 = 680 + 204 = 884

756 ÷ 6 → 7 ÷ 6 = 1 (remainder 1) **15 ÷ 6 = 2 (remainder 3)** **36 ÷ 6 = 6 → 126**

1 Medium

Work out in columns: 23 × 14.

	10	4
20	20 × 10	20 × 4
3	3 × 10	3 × 4

.....

2 Hard

Work out in columns: 46 × 35.

	30	5
40	40 × 30	40 × 5
6	6 × 30	6 × 5

.....

3 Hard

Work out in columns: 64 × 27.

4 Hard

A school trip costs £18 per child. 47 children go. How much does it cost altogether?

5 Hard

Mira works out 37 × 24 like this: 37 × 4 = 148 and 37 × 2 = 74, so 148 + 74 = 222. What does she do wrong?

- ◯ Nothing is wrong; 148 + 74 is right.
- ◯ She must use 37 × 20 = 740 instead of 37 × 2.
- ◯ She must do 37 × 4 twice.

6 Medium

Work out with long division: 432 ÷ 6.

7 Hard

Work out with long division: 1,248 ÷ 8.

8 Hard

Work out with long division: 925 ÷ 4.

9 Hard

A baker shares 372 rolls equally between 12 boxes. How many rolls are in each box?

10 Hard

True or false? Circle one.

	True	False
25 × 12 = 300	◯	◯
In 215 ÷ 5 there is a remainder.	◯	◯
You can check a division with a multiplication.	◯	◯

How did it go? 😊 😐 ☹

Stuck? Turn the sheet round and read the tip for your number.

Help card

1. Split 14 into 10 and 4. Work out 23 × 10 and 23 × 4 separately and add.

2. Work out 46 × 5 first and then 46 × 30 (put a 0 down). Add the two lines.

3. Work out 64 × 7 first and then 64 × 20.

4. The number of children times the price for one child.

5. The 2 in 24 is in the tens place. What is that 2 really worth?

6. How many times does 6 go into 432? Write it above the line and then bring down the next digit.

7. How many times does 8 go into 12? Then keep bringing down the next digit.

8. At the end something is left that is smaller than 4. That is the remainder.

9. How many times does 12 go into 37? Then carry on with what is left.

10. Work out the first two sentences. For the last one: what is the opposite of dividing?

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Answers: Long multiplication and long division

For the parent · Year 5–7 · Hard

Today you learn: I can multiply by a two-digit number and divide with long division.

Check it together. When something is wrong, first ask: how did you work that out? Give the tip before the answer.

1. 322

   Tip: Split 14 into 10 and 4. Work out 23 × 10 and 23 × 4 separately and add.

2. 1,610

   Tip: Work out 46 × 5 first and then 46 × 30 (put a 0 down). Add the two lines.

3. 1,728

   Tip: Work out 64 × 7 first and then 64 × 20.

4. £846

   Tip: The number of children times the price for one child.

5. She must use 37 × 20 = 740 instead of 37 × 2.

   Tip: The 2 in 24 is in the tens place. What is that 2 really worth?

6. 72

   Tip: How many times does 6 go into 43? Write it above the line and then bring down the next digit.

7. 156

   Tip: How many times does 8 go into 12? Then keep bringing down the next digit.

8. 231 remainder 1

   Tip: At the end something is left that is smaller than 4. That is the remainder.

9. 31

   Tip: How many times does 12 go into 37? Then carry on with what is left.

10. 1: True · 2: False · 3: True

    Tip: Work out the first two sentences. For the last one: what is the opposite of dividing?

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