

Worked Examples

Decimals

Year 4

Instructions

A pupil has been given a set of questions to answer. They tried their best but think they have got some answers wrong.

Go through the work and check the answers. Help the pupil to understand their errors by explaining where they have gone wrong or how to find the correct answer (there are prompts below the questions to help you).

Note that you will not always be asked to provide the correct answer.

1

Complete the sentences.

In 2.5 there are ones and tenths.

In there are 4 ones and 1 tenth.

In 0.9 there are ones and tenths.

This answer is: ☐ Correct ☐ Incorrect

What is a 'decimal number'?

Worked Examples Year 4 Decimals

2 $43 \div 10 =$

4

This answer is: ☐ Correct ☐ Incorrect
Explain how to divide by 10.

3 Complete the statements using $<$, $>$ or $=$

1.27 0.72
3.11 4.01
6.38 1.83

The answers are: ☐ Correct ☐ Incorrect
If incorrect, what should the answers be? Explain.

4 $0.64 + 0.36 =$

$64 + 36 = 100$
so $0.64 + 0.36 = 0.100$

0.100

This answer is: ☐ Correct ☐ Incorrect
If incorrect, explain the error.

5 Complete the table

Fraction	Decimal
$\frac{3}{10}$	3.10
$\frac{1}{4}$	1.4
$\frac{0}{5}$	0.5
$\frac{3}{4}$	3.4

The answers are: ☐ Correct ☐ Incorrect
If incorrect, what should the answers be? Explain.

Answers

Q no.	Question	Correct/ Incorrect	Error/ Additional Guidance
1	Complete the sentences 2 ones and 5 tenths, 4.1, 0 ones and 9 tenths	Correct	The pupil has been able to identify the place value of the digits in decimal numbers. A decimal number is a number containing a decimal point.
2	$43 \div 10 = 4$	Incorrect	The pupil does not understand how to divide by 10 when there will be a decimal answer. The pupil understands that $40 \div 10$ is 4 but they do not know what to do with the digit 3. Using a place value chart would show the pupil that the digits all move one column to the right when dividing by 10. Correct answer - 4.3
3	Complete the statements using <, > or = <, >, <	Incorrect	The pupil does not have a secure understanding of the place value of decimal numbers. The pupil knows that the focus of the topic is decimals and has therefore only looked at the decimals, not the number as a whole. They need to be reminded to compare numbers starting at the left most column. Correct answers - >, <, >
4	$0.64 + 0.36 = 0.100$	Incorrect	The pupil has generalised their knowledge of number bonds to 100 and attempted to apply it to decimal numbers. They have understood that $64 + 36 = 100$ and have concluded that $0.64 + 0.36 = 0.100$. The pupil has not fully understood the place value of decimals, if they did understand, they would have identified that 0.100 is less than the two decimals given in the question. Correct answer - 1
5	Complete the table $3.10, 1.4, \frac{0}{5}, 3.4$	Incorrect	The pupil has replaced the vinculum (the horizontal line used in mathematics) with a decimal point. This shows not only a fundamental misunderstanding of the connection between fractions and decimals but also a misunderstanding of what a fraction is. The pupil believes that in a fraction the numerator represents whole numbers and the denominator represents decimals. Correct answers – 0.3, 0.25, $\frac{1}{2}$, 0.75