

How to do long division sums

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For division sums which involve two or more digits for divisors, long division is the most suitable method for working out the answer. Long division sums involve not only division but also the functions of subtraction and multiplication.

E.g. $3749 \div 12 = ?$

$$\begin{array}{r} \overline{3 \ 1 \ 2} \text{ r } 5 \\ 12 \overline{) 3 \ 7 \ 4 \ 9} \\ \underline{3 \ 6} \\ 1 \ 4 \\ \underline{ 1 \ 2} \\ 2 \ 9 \\ \underline{ 2 \ 4} \\ 5 \end{array}$$

Start by dividing 12 into the first digit. This does not divide, so divide 12 into the first two digits - 37. 12 goes into 37 3 times with a remainder of 1. Write the 3 on the line above the 7, then put 36 under the 37. Subtract this and put the answer 1 under the 6. Then bring down the digit, 4. Put this next to the 1 so you have 14. Divide 12 into the 14. The answer is 1, with a remainder of 2. Write the 1 on the line above 4, then put 12 under the 14. Subtract this and put the answer 2 under the 2. Next bring the 9

down and put it next to the 2 so you have 29. Divide this by 12. The answer is 2 remainder 5. Write the 2 on the line above the 9 with the remainder 5 next to it. Put 24 under the 29 and subtract so that you get a remainder of 5.

Remember:- divide, then subtract, then bring down the next digit, then repeat the whole process.

Note: For some long division sums, if the divisor is 13 or more, the pupil may have to try several multiplication sums to find out how many times a number will divide into another number. E.g. $5864 \div 16$? Try 16×4 first = 64:- this is too high, so either subtract a 16 from the 64 or do 16×3 .

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Above extract from "The New Primary Maths Directory" ISBN 1901146 405