

fs4u

Decimals

‘How To’ Booklet 24

Decimals

This section is a revision and reinforcement of skills covered in Level 2. The first section is to be done WITHOUT the use of a calculator to test your understanding of decimals.

Addition

Addition and subtraction - when adding or subtracting decimals make sure the decimal points are in a vertical line.

Example

$$\begin{array}{r} 13.7 + 4.2 + 0.059 + 127 = + 13.7 \\ 4.2 \\ 0.059 \\ \underline{127} \\ \underline{144.959} \\ 1 \end{array}$$

NB if a number does not appear to have a decimal point, as in 127. it is after the units digit. i.e. 127.

Subtraction

Subtraction is similar in setting out to addition

Example

$$\begin{array}{r} 157.2 - 28.38 = 157.20 \\ - \underline{028.38} \\ \underline{128.82} \end{array}$$

Multiplication

Multiply the numbers together ignoring the decimal points and then position the decimal point in the answer.

Example

$$\begin{aligned} 0.2 \times 0.3 &= (2 \times 3 = 6 \text{ then two figures are after the decimal points in the question}) \\ &= \mathbf{0.06} \text{ (this means that two figures must be after the decimal point in the answer)} \end{aligned}$$

Division

The decimal point has to be repositioned so that you are dividing by a whole number. The decimal point then stays in its new position.

Example

$$1.251 \div 0.3 = (1.251 \times 10) \div (0.3 \times 10) = 12.51 \div 3 = 3\sqrt[4.17]{12.51} = \mathbf{4.17}$$

Activity

Do the following exercise without the use of a calculator, showing all your working.

Addition

1	$14.6 + 5.3 + 0.068 + 152$
2	$4 + 0.4 + 0.04 + 0.004$
3	$123 + 12.3 + 1.23 + 0.123$

Subtraction

4	$137.4 - 29.49$
5	$40 - 0.4$
6	$105 - 10.5$

Multiplication

7	0.4×0.6
8	0.7×0.05
9	1.5×0.8

Division

10	$1.374 \div 0.2$
11	$0.8 \div 0.04$
12	$5.328 \div 0.09$

Use of a calculator

Repeat the activities using a calculator - this will also serve to check your results.