

fs4u

Fractions

‘How To’ Booklet 23

Fractions

This is revision of fractions and an extension to using a calculator to solve problems including fractions. But first you must have a complete understanding of the processes involved.

The following examples are to act as a reminder.

If more is required refer to Level 2.

Addition

$$1 \quad \frac{1}{2} + \frac{2}{3} = \frac{1 \times 3 + 2 \times 2}{6} = \frac{3 + 4}{6} = 1 \frac{1}{6}$$

$$2 \quad 2\frac{3}{4} + 3\frac{5}{6} = 3 + 2 + \frac{3}{4} + \frac{5}{6} = 5 + \frac{3 \times 3 + 5 \times 2}{12} = 5 + \frac{9 + 10}{12} = 5 \frac{19}{12} = 6 \frac{7}{12}$$

Subtraction

$$1 \quad \frac{7}{8} - \frac{3}{5} = \frac{7 \times 5 - 3 \times 8}{40} = \frac{35 - 24}{40} = \frac{11}{40}$$

$$2 \quad 3\frac{1}{6} - 1\frac{3}{8} = 2 + \frac{1 \times 4 - 3 \times 3}{24} = 2 \frac{4 - 9}{24} = 1 \frac{24 + 4 - 9}{24} = 1 \frac{19}{24}$$

Multiplication

$$1 \quad \frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$$

$$2 \quad 1\frac{1}{5} \times 2\frac{2}{3} = \frac{2}{5} \times \frac{8}{3} = \frac{16}{15} = 3\frac{1}{5}$$

Division

$$1 \quad \frac{3}{5} \div \frac{4}{7} = \frac{3}{5} \times \frac{7}{4} = \frac{21}{20} = 1 \frac{1}{5}$$

$$2 \quad 1\frac{4}{5} \div 2\frac{4}{7} = \frac{9}{5} \div \frac{18}{7} = \frac{1}{5} \times \frac{7}{2} = \frac{7}{10}$$

Do the following exercises without a calculator, using the methods shown previously.

Activity

Addition

1	$1/3 + 2/5$	2	$\frac{3}{4} + 1.6$	3	$2/3 + \frac{3}{4}$
4	$5/6 + 5/8$	5	$1\frac{1}{2} + 1\frac{1}{3}$	6	$2\frac{3}{5} + 1\frac{5}{6}$
7	$4\frac{1}{2} + 3\frac{2}{3} + 2\frac{3}{4}$	8	$1\frac{2}{3} + 2\frac{3}{4} + 3\frac{4}{5}$		

Subtraction

1	$\frac{1}{2} - 1/3$	2	$\frac{3}{4} - 1/3$	3	$5/6 - 2/5$
4	$1\frac{3}{4} - 3/8$	5	$2\frac{7}{8} - 1\frac{1}{6}$	6	$3\frac{5}{6} - 1\frac{1}{3}$
7	$5\frac{1}{6} - 3\frac{5}{9}$	8	$1\frac{1}{2} + 2\frac{1}{3} - 1\frac{1}{4}$		

Multiplication

1	$2/3 \times 5/7$	2	$\frac{3}{4} \times 5/6$	3	$9/16 \times 8/27$
4	$14/15 \times 6/7$	5	$1\frac{2}{5} \times 2\frac{1}{6}$	6	$1\frac{1}{2} \times 2\frac{3}{4}$
7	$3\frac{1}{7} \times 1\frac{3}{11}$	8	$1\frac{1}{3} \times 1\frac{1}{4} \times 1\frac{1}{5}$		

Division

1	$1/3 \div \frac{1}{2}$	2	$\frac{1}{2} \div 1/7$	3	$3/5 \div \frac{3}{4}$
4	$5/7 \div 15/28$	5	$\frac{3}{4} \div 9/16$	6	$1\frac{1}{2} \div 1\frac{1}{3}$
7	$3\frac{1}{4} \div 4\frac{1}{3}$	8	$1\frac{7}{8} \div 4\frac{1}{6}$		

The use of a calculator to solve fraction questions. You must have a calculator capable of coping with fractions e.g. Casio fx - 82 FRACTION. This a_b/c button.

Examples (These are taken from the first sheet)

1 $\frac{1}{2} + \frac{2}{3}$

To solve this question follow these instructions.

Press 1 a_b/c 2 + 2 a_b/c 3 =

The read out is 1 | 1 | 6

This is interpreted as $1\frac{1}{6}$

2 $2\frac{3}{4} + 3\frac{5}{6}$

Press 2 a_b/c 3 a_b/c 4 + 3 a_b/c 5 a_b/c 6 =

The read out is 6 | 7 | 12

This can be interpreted as $6\frac{7}{12}$

Now do the remaining examples from the first sheet for subtraction, multiplication, division and check your answers.

Now repeat the exercises using your calculator but make sure you have done them without a calculator first.

