Fractions:

Adding fractions:

If both fractions have the same denominator, just add them together.
How many sevenths are there altogether?

$$\frac{2}{7} + \frac{4}{7} = \frac{6}{7}$$

If fractions have a different denominator, you must find equivalent fractions with the same denominator – a common denominator.
Find a number that is a multiple of both denominators. Then find equivalent fractions using 'eyebrows and smiles.'

$$\frac{3}{8} + \frac{5}{12} =$$

$$\frac{3}{8} = \frac{9}{24} \quad (\times 3)$$

$$\frac{5}{12} = \frac{10}{24} \quad (\times 2)$$

$$\frac{9}{24} + \frac{10}{24} = \frac{19}{24}$$

Keep your jottings separate from the main calculation

Multiplying fractions:

The easiest of all operations with fractions. Multiply both of the numerators together and multiply both of the denominators together.

$$\frac{2}{3} \times \frac{5}{7} = \frac{10}{21}$$

When multiplying a whole number by a fraction, multiply the numerator and whole number together.

$$\frac{2}{7} \times 3 = \frac{6}{7}$$

$3 \times \frac{2}{7}$ is the same as $\frac{2}{7} + \frac{2}{7} + \frac{2}{7}$

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

Write your answer as a mixed number if you are able

Subtracting fractions:

Follow the same rules as for adding fractions. If fractions have a different denominator, you must find equivalent fractions with the same denominator – a common denominator.

$$\frac{3}{5} - \frac{1}{4} =$$

$$\frac{3}{5} = \frac{12}{20} \quad (\times 4)$$

$$\frac{1}{4} = \frac{5}{20} \quad (\times 5)$$

$$\frac{12}{20} - \frac{5}{20} = \frac{7}{20}$$

Keep your jottings separate from the main calculation

Dividing fractions:

To divide rewrite the division calculation as a multiplication calculation, then multiply as above.

$$\frac{2}{7} \div 3 =$$

$$\frac{1}{3} \text{ of } \frac{2}{7} =$$

$$\frac{1}{3} \times \frac{2}{7} = \frac{2}{21}$$

Dividing by 3 is the same as finding $\frac{1}{3}$

Turn over to practise.