

NUMBERS AND THE NUMBER SYSTEM

Pupils should be taught to:

Calculate fractions of quantities; add, subtract, multiply and divide fractions

As outcomes, Year 7 pupils should, for example:

Add and subtract simple fractions.

Know addition facts for simple fractions, such as:

- $\frac{1}{4} + \frac{1}{2} = \frac{3}{4}$
- $\frac{3}{4} + \frac{3}{4} = 1\frac{1}{2}$
- $\frac{1}{8} + \frac{1}{8} = \frac{1}{4}$

and derive other totals from these results, such as:

- $\frac{1}{4} + \frac{1}{8} = \frac{3}{8}$ (knowing that $\frac{1}{4} = \frac{2}{8}$)
- $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{1}{2}$ (knowing that $\frac{4}{8} = \frac{1}{2}$)

Add and subtract simple fractions with the same denominator.

For example:

- $\frac{3}{8} + \frac{5}{8}$ $\frac{3}{5} + \frac{4}{5} + \frac{1}{5}$ $\frac{7}{10} + \frac{3}{10} + \frac{5}{10} + \frac{9}{10}$
- $\frac{6}{7} - \frac{4}{7}$ $\frac{9}{10} + \frac{4}{10} - \frac{3}{10}$

Calculate fractions of numbers, quantities or measurements.

Know that, for example:

- $\frac{1}{5}$ of 35 has the same value as $35 \div 5 = 7$;
- $\frac{2}{3}$ of 15 has the same value as $15 \div 3 \times 2 = 10$;
- 0.5 of 18 has the same value as $\frac{1}{2}$ of $18 = 9$.

Use mental methods to answer short questions with whole-number answers, such as:

- Find: one fifth of 40; two thirds of 150 g.
- Find: $\frac{1}{3}$ of 24; $\frac{3}{8}$ of 160; $\frac{9}{10}$ of 1 metre.
- Find: 0.5 of 50; 0.75 of 56; 1.25 of 40.

Use informal written methods to answer questions such as:

- If I make one fifth of a turn, how many degrees do I turn?
- Calculate: $\frac{7}{10}$ of £420; $\frac{6}{5}$ of 35;
 $\frac{3}{7}$ of 210; $1\frac{1}{4}$ of 2.4.

See Y456 examples (pages 24–5).

[Link to multiplying fractions \(pages 68–9\).](#)