

## Lesson 2: Subtracting fractions (I)

→ pages 97–99

1.  $2 \frac{7}{10} - \frac{9}{10} = 1 \frac{8}{10}$  Rusty ate  $1 \frac{8}{10}$  kg this week.
2.  $3 \frac{1}{5} - \frac{4}{5} = \frac{12}{5}$  (or  $2 \frac{2}{5}$ )
3. a)  $1 \frac{4}{8}$                       b)  $2 \frac{5}{9}$                       c)  $1 \frac{8}{11}$
4. a) 3                              b)  $\frac{1}{7}$
5. a)  $1 \frac{3}{5}$                               d)  $2 \frac{5}{8}$   
b)  $2 \frac{2}{3}$                               e)  $6 \frac{6}{12}$   
c)  $\frac{6}{8}$                                 f)  $5 \frac{1}{8} - \frac{5}{8} = 4 \frac{4}{8}$   
g) Answers may vary; for example:  $3 \frac{1}{6} - \frac{7}{6} = 2$   
h)  $4 \frac{2}{10}$                               i)  $\frac{3}{5}$
6.  $4 \frac{2}{9}$  m

### Reflect

$$2 \frac{1}{5} - \frac{3}{5} = 1 \frac{3}{5}$$

Diagrams may vary; for example, children may draw a fraction strip showing  $2 \frac{1}{5}$  with  $\frac{3}{5}$  crossed out.

## Lesson 3: Subtracting fractions (2)

→ pages 100–102

1.  $2 - \frac{3}{8} = 1 \frac{8}{8} - \frac{3}{8} = 1 \frac{5}{8}$ . Amelia has  $1 \frac{5}{8}$  cake left.
2. a)  $3 - \frac{1}{5} = 2 \frac{4}{5}$       d)  $3 - \frac{4}{5} = 2 \frac{1}{5}$   
 b)  $3 - \frac{2}{5} = 2 \frac{3}{5}$       e)  $3 - \frac{5}{5} = 2 \frac{0}{5}$   
 c)  $3 - \frac{3}{5} = 2 \frac{2}{5}$
3. a)  $2 \frac{3}{7}$   
 b) Explanations may vary; for example:  
 Mary has worked out the answer to  $\frac{5}{7} - \frac{2}{7}$ , not  $5 - \frac{2}{7}$ .  
 The correct answer is  $5 - \frac{2}{7} = 4 \frac{7}{7} - \frac{2}{7} = 4 \frac{5}{7}$
4. a)  $3 \frac{3}{9}$ ,  $3 \frac{2}{9}$ ,  $3 \frac{1}{9}$       c)  $9 \frac{1}{3}$ ,  $7 \frac{1}{3}$ ,  $5 \frac{1}{3}$   
 b)  $4 \frac{3}{9}$ ,  $4 \frac{2}{9}$ ,  $4 \frac{1}{9}$       d)  $5 \frac{1}{4}$ ,  $5 \frac{1}{5}$ ,  $5 \frac{1}{10}$
5. a)  $\frac{4}{7}$       c)  $15 \frac{7}{9}$       e) 5  
 b)  $\frac{2}{3}$       d)  $\frac{2}{3}$       f) 10
6. Explanations may vary; for example:  
 No, after 60 mins Jen will have run  
 $\frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} = \frac{30}{8} = 3 \frac{6}{8}$  km.

### Reflect

No, the calculation is not correct.  $4 - \frac{3}{4} = 3 \frac{1}{4}$ . Diagrams may vary; for example, children could draw 4 circles divided into quarters; subtracting 3 quarters leaves 3 wholes and 1 quarter.

## Lesson 7: Problem solving – fraction of a quantity (I)

→ pages 112–114

- a)  $3 \times 6 = 18$ . Amelia has to complete 18 questions in total.

b)  $12 \div 2 = 6$        $6 \times 5 = 30$   
Amelia has to learn 30 spellings in total.
- a) 25                      b) 108
- There were 30 buttons at the start.
- Ethan gives £30 to his friend.
- a) 15                      b) 4
- The total distance Jen and Toshi have to drive is 72 km.

### Reflect

Different diagrams are possible, for example, a bar model split into 5 equal sections with 3 sections labelled as £60. 1 section is equal to £20 and so the whole amount is  $5 \times £20 = £100$ .

## Lesson 8: Problem solving – fraction of a quantity (2)

→ pages 115–117

- $\frac{2}{9}$  of 36 is greater.
- a) 60                                      b) 45
- a) Red = 2; Blue = 6; Yellow = 8  
b) Red = 24; Blue = 6; Green = 10
- 387
- Missing numbers:  
a) 36                                      b) 5

### Reflect

Explanations may vary; for example:

If  $\frac{2}{3}$  of a number is equal to 18 then to find  $\frac{1}{3}$  it is necessary to divide by 2 (not 3). This gives  $18 \div 2 = 9$  and so  $\frac{1}{3}$  of the number is equal to 9. To find the original number it is necessary to find 3 thirds ( $\frac{3}{3} = 1$ ) and so to multiply by 3 (not 2) to give  $9 \times 3 = 27$ . The original number is 27 not 12.

## Lesson 6: Calculating fractions of a quantity

→ pages 109–111

- 1 a)  $42 \div 7 = 6$ ;      The small teddy bear is 6 cm tall.  
b)  $42 \div 7 = 6$   
 $6 \times 4 = 24$ ;      The medium teddy bear is 24 cm tall.
2. a) 10 m                      b) 18 kg                      c) £15
3. Working out may vary, but look for children recognising the following:  
The statement is true:  $24 \div 8 = 3$ , so  $\frac{3}{8}$  of 24 is  $3 \times 3 = 9$ ;  
 $36 \div 4 = 9$ , so  $\frac{1}{4}$  of 36 is 9.
4. Calculations matched to answers:  
 $\frac{2}{3}$  of 18 → 12;  $\frac{1}{9}$  of 18 → 2  
 $\frac{5}{6}$  of 18 → 15;  $\frac{7}{18}$  of 18 → 7
5. Missing numbers:  
a) 6                              c) 7  
b) 40                             d)  $\frac{5}{6}$
6.  $\frac{5}{7}$  of 56 is 40 so Chloe scored 40 marks in the test.  
 $\frac{3}{8}$  of 56 is 21 so Mike got 21 marks wrong in the test.  
He therefore scored  $56 - 21 = 35$  marks in the test.  
Chloe got 5 more marks than Mike.

### Reflect

Different contexts and answers are possible, but most are likely to be based on the calculation  $\frac{7}{9}$  of 45 cm is 35 cm. For example: A piece of ribbon is 45 cm long. Amy cuts  $\frac{7}{9}$  of the ribbon. How long is the piece Amy cuts?