Page 4
1. £4·30 + 40p + £2 = £6·70
2. £5·90 + £1·10 + 35p = £7·35
3. £5·20 + £2·80 + 30p = £8·30
4. £1·80 + £2·20 + 99p = £4·99
5. £3·40 + £1·60 + 77p = £5·77
6. £4·30 + £1·70 + 48p = £6·48
7. £2·50 + 39p + £2·50 = £5·39
8. £1·05 + 95p + £1·60 = £3·60
9. £4·30

Page 5
1. £6·80 + 35p + 90p = £8·05
2. £2·40 + £3·99 + 50p = £6·89
3. £7·30 + 56p + £2·70 = £10·56
4. £3·70 + £4·20 + 67p = £8·87
5. £5·90 + 82p + £2·90 = £9·62
6. £4·99 + £3·70 + 60p = £9·29
7. £4·69
8. £8·00
9. £9·75

Page 6
1. £5·25 + £1·99 + £1·75 = £8·99
2. £7·20 + £1·40 + 79p = £9·39
3. £5·55 + 80p + £2·90 = £9·25
4. £1·80 + 75p + £6·20 + 75p = £9·50
5. £2·60 + 60p + £3·40 + 45p = £7·05
6. £3·99 + £2·99 + 60p + 70p = £8·28
7. 99p + £1·70 + £3·90 + 20p = £6·79
8. £3·70 + 43p + £6·95 + 57p = £11·65
9. £6·84
10. £2·83
Think. £0·99, £0·99 and £4·99, or £0·99, £1·99 and £3·99 or £0·99, £2·99 and £2·99 or £1·99, £1·99 and £2·99.

Page 7
1. £7·01
2. £6·25
3. £12·31
4. £11·55
5. £14·01
6. £13·75
7. £22·31
8. £7·25
Think. The two missing digits add to make 6, for example, £2·99 and £4·50.

Page 8
1. £17·30
2. £21·10
3. £14·50
4. £18·50 − £7·99 = £10·51
5. £25·40 − £13·20 = £12·20
6. £44·75 − £19·25 = £25·50
7. £39·61
8. Mel has more money left. Connor has £21·20 and Mel has £22·90.
Think. Answers will vary, for example, £9·32, £12·47 etc. Combinations of 3 of 5p, 10p, 20p, 50p, £1, £2 should be added together then added to £8·97.

Page 9
1. £2·15
2. £3·25
3. £5·03
4. £1·51
5. £7·25
6. £4·30
7. £6·55
8. £8·11
9. £5·51
10. £3·18
Think. Answers will vary, for example: £20·00 − £15·70 = £4·30 Two £2·00 coins, a 20p and 10p.

Page 10
1. £5·18
2. £8·74
3. £10·35
4. £6·23
5. £4·66
6. £3·89
7. £6·85
8. £8·45
9. £8·89
10. £10·87

Page 11
1. £7·30
2. £2·21
3. £14·99
4. £9·20
5. £8·51
6. £17·30
7. £56·10
Think. No, he needs 19p more.

Page 12
1. £3·74
2. £18·40
3. £5·50
4. £12·14
5. £2·05
6. 4 rides in total
7. £7
8. 53p
Think. Answers will vary, for example: Cindy buys a hot chocolate for £2·50 and get cream on top for an additional 40p. She pays with a £5·00 note. How much change does she get back?

Page 13
1. £6·80
2. £28·97
3. No; £1·32
4. Yes (total spend £29·84)
5. £16·14
6. In shop £27·99; online £27·47, which is 52p cheaper.
Think. Answers will vary, for example: Paul has £10 to buy a present for his mum's birthday. He buys some flowers for £5·50, a card for £1·20 and some chocolates for £3·20. Does he have any money left?

Page 14

1. $\frac{4}{5}$
2. $\frac{3}{2} = 1\frac{1}{2}$
3. $\frac{6}{8} = \frac{3}{4}$
4. $\frac{8}{5} = 1\frac{3}{5}$
5. $\frac{2}{4} = \frac{1}{2}$
6. $\frac{14}{8} = 1\frac{3}{4}$
7. $\frac{6}{3} = 2$
8. $\frac{6}{5} = 1\frac{1}{5}$
9. $\frac{9}{4} = 2\frac{1}{4}$
10. $\frac{6}{7}$
11. $\frac{12}{5} = 2\frac{2}{5}$
12. $\frac{9}{7} = 1\frac{2}{7}$
13. $\frac{8}{3} = 2\frac{2}{3}$
14. $\frac{4}{4} = 1$
15. $\frac{8}{7} = 1\frac{1}{7}$
16. $\frac{12}{5} = 2\frac{2}{5}$
17. $\frac{20}{6} = 3\frac{1}{3}$
18. $\frac{8}{6} = 1\frac{1}{3}$
19. $\frac{65}{6} = 10\frac{5}{6}$
20. $\frac{50}{8} = 6\frac{1}{4}$
21. $\frac{20}{7} = 2\frac{6}{7}$
22. $\frac{30}{6} = 5$
23. $\frac{60}{4} = 15$
24. $\frac{55}{5} = 11$

Think. Answers will vary but must give a whole number.

Page 15

1. 2118 × 4 = 8472
2. 3207 × 3 = 9621
3. 2627 × 4 = 10 508
4. 2117 × 5 = 10 585
5. 3814 × 3 = 11 442
6. 1241 × 8 = 9928
7. 3416 × 4 = 13 664
8. 5259 × 3 = 15 777
9. 2616 × 5 = 13 080
10. 9243 × 3 = 27 729
11. 3182 × 6 = 19 092
12. 9013 × 7 = 63 091

Think. The missing digits are both 1.

Page 16

1. 4312 × 6 = 25 872
2. 5473 × 4 = 21 892
3. 3627 × 5 = 18 135
4. 4263 × 4 = 17 052
5. 3725 × 4 = 14 900
6. 4368 × 3 = 13 104
7. 5274 × 6 = 31 644
8. 3429 × 4 = 13 716
9. 1438 × 7 = 10 066
10. 2546 × 8 = 20 368
11. 3472 × 5 = 17 360
12. 4135 × 6 = 24 810
13. 1382 × 6 = 8292
14. 2047 × 6 = 12 282
15. 1943 × 6 = 11 658
16. 2264 × 6 = 13 584
17. 1783 × 6 = 10 698
18. 1452 × 6 = 8712

Think. Answers will vary, for example: 6375 × 3 = 19 125

Page 17

1. 24 × 13 = 312
2. 35 × 13 = 455
3. 42 × 14 = 588
4. 38 × 15 = 570
5. 29 × 16 = 464
6. 61 × 17 = 1037
7. 57 × 18 = 1026
8. 45 × 22 = 990
9. 43 × 21 = 903
10. 51 × 23 = 1173
11. 38 × 31 = 1178
12. 52 × 24 = 1248
13. 63 × 33 = 2079
14. 46 × 42 = 1932

Think. The missing digit is 1.

Page 18

1. 32 × 14 = 448
2. 44 × 13 = 572
3. 28 × 16 = 448
4. 56 × 19 = 1064
5. 231 × 13 = 3003
6. 124 × 14 = 1736
7. 676 miles
8. 384 miles
9. 1020 miles
10. 2982 miles
11. 9516 miles
12. 13 136 miles

Think. No.

Page 19

1. 432 × 14 = 6048
2. 135 × 13 = 1755
3. 212 × 16 = 3392
4. 385 × 15 = 5775
5. 843 × 17 = 14 331
6. 674 × 19 = 12 806
7. 626 × 18 = 11 268
8. 748 × 14 = 10 472
9. £1488
10. 5538 miles

Think. The missing digits are both 1.

Page 20

1. 548 × 12 = 6576
2. 217 × 15 = 3255
3. 147 × 13 = 1911
4. 571 × 14 = 7994
5. 286 × 16 = 4576
6. 777 × 18 = 13 986
7. 4368 miles
8. 7232

Think. Answers will vary, for example, 125 × 12 = 1500.

Page 21

1. 678 × 16 = 10 848
2. 926 × 17 = 15 742
3. 689 × 19 = 13 091
4. 708 × 18 = 12 744
5. 488 × 16 = 7808
6. 793 × 17 = 13 481
7. 636 × 26 = 16 536
8. 164 × 28 = 4592
9. Tim got one correct, Jenny got both correct, Ranjit got neither correct, Jack got neither correct, Su Li got both correct, Devi got one correct.

Think. Answers will vary, for example, 221 × 19 = 4199.

Page 22

1. 2·743 < 6·115
2. 0·625 < 0·816
3. 0·919 > 0·482
4. 4·516 < 7·064
5. 0·302 > 0·203
6. 0·529 < 0·597
7. 1·932
8. 6·417
9. 0·851
10. 2·308
11. 3·264
12. 7·237

Think. 9 numbers 0·231, 0·232, 0·233, 0·234, 0·235, 0·236, 0·237, 0·238, 0·239.

Page 23
1. 0·672 > 0·626
2. 0·404 > 0·401
3. 0·742 < 7·402
4. 6·635 > 6·351
5. 5·701 > 5·071
6. 9·332 > 9·233
7. 3·418
8. 2·049
9. 6·502
10. 7·007
11. 6·307
12. 5·501
13. 0·357
14. 0·382, 0·452, 0·791
15. 0·285, 1·266, 2·167
Think. 1·02.

Page 24
1. a = 0·15, b = 0·38, c = 0·53, d = 0·82
2. a = 6·19, b = 6·49, c = 6·85
3. a = 14·09, b = 14·55, c = 14·71
4. 0·7
5. 2·4
6. 7·5
7. 1·7
8. 14·9
9. 11·8
Think. There are 9, or 10 if 1·0 is included.

Page 25
1. a = 0·19, b = 0·55, c = 0·71
2. a = 3·25, b = 3·48, c = 3·82
3. a = 19·09, b = 19·35, c = 19·75
4. a = 23·42, b = 23·56, c = 23·78
5. 0·6
6. 1·5
7. 12·8
8. 16·2
9. 14·1
10. 7·3
Think. 2·45, 2·46, 2·47, 2·48, 2·49, (2·50) 2·51, 2·52, 2·53, 2·54.

Page 26
1. Number line from 0 to 1 with 0·45, 0·68 and 0·91 marked.
2. Number line from 15 to 16 with 15·75, 15·32 and 15·01 marked.
3. Number line from 3·5 to 4·5 with 3·85, 4·17 and 4·34 marked.

4. 0·6
5. 12·3
6. 8·8
7. 13·4
8. 4·2
9. 15·5
10. 0·62
11. 0·88
12. 0·12
13. 0·47
Think. 49 numbers round down to 0 (0·01–0·49); 50 numbers round up to 1 (0·50–0·99).

Page 27
1. 252
2. 26
3. 0·505 kg, 505 g

Page 28
1. –3 °C > –7 °C
2. –2 °C > –9 °C
3. –4 °C < 2 °C
4. –5 °C < 4 °C
5. 6 °C > –6 °C
6. –12 °C < –9 °C
7. 11
8. 9
9. 10
Think. Whole number temperature answers are –7 °C, –8 °C or –9 °C.

Page 29
1. –7 °C > –9 °C
2. –6 °C < –3 °C
3. –1 °C < 4 °C
4. –8 °C < 2 °C
5. –12 °C, –6 °C, 5 °C
6. –7 °C, 0 °C, 14 °C
7. –12 °C, –2 °C, 21 °C
8. –4 °C, –1 °C, 17 °C
9. –10 °C, 7 °C, 10 °C
10. –6 °C, –1 °C, 16 °C
11. 6 °C
12. 10 °C
13. 14 °C
14. 9 °C
Think. 9

Page 30
1. (1, 1), (5, 1), (5, 3), (1, 3) becomes (1, 4), (5, 4), (5, 6), (1, 6)
2. (1, 1), (3, 1), (3, 3) becomes (3, 1), (5, 1), (5, 3)
3. (1, 4), (3, 4), (1, 7) becomes (1, 0), (3, 0), (1, 3)
4. (4, 1), (5, 1), (5, 3), (6, 3), (6, 4), (3, 4) (3, 3) (4, 3) becomes (1, 1), (2, 1), (2, 3), (3, 3), (3, 4), (0, 4), (0, 3), (1, 3)
5. (1, 1), (4, 1), (4, 2), (2, 2), (2, 4), (1, 4) becomes (4, 1), (7, 1), (7, 2), (5, 2), (5, 4), (4, 4)
6. (6, 4), (7, 4), (7, 7), (5, 7), (5, 6), (6, 6) becomes (1, 4), (2, 4), (2, 7), (0, 7), (0, 6), (1, 6)
7. (1, 1), (3, 1), (4, 3), (2, 3) becomes (1, 5), (3, 5), (4, 7), (2, 7)
8. (0, 1), (1, 1), (3, 4), (0, 4) becomes (3, 1), (4, 1), (6, 4), (3, 4)
Think. It moves diagonally, 1 square to the right and 2 squares up.

Page 31
1. Coordinate grid from 0 to 12 drawn.
2. trapezium
3. (1, 4), (2, 7), (4, 7), (5, 4)
4. The shape moves three squares up.
5. (3, 4), (4, 7), (6, 7), (7, 4)
6. The shape moves two squares to the right.
Think. To move a shape up, add to the *y*-coordinate. To move a shape to the right, add to the *x*-coordinate.

Page 32
1. (–2, 3), (–5, 3), (–5, 5), (–2, 5)
2. (–4, 2), (–7, 2), (–7, 6)
3. (–2, 1), (–5, 1), (–5, 2), (–3, 2), (–3, 5), (–2, 5)
4. (–1, 1), (–3, 1), (–3, 3), (–1, 4)
Think. (–2, 2), (–2, 1), (–3, 1), (–3, 2).

Page 33
1–8. Answers will vary.
11. (6, 1), (9, 1), (6, 5)
Think. The *y*-coordinates are the same.

Page 34

1. (2, 1), (6, 1), (6, 3), (4, 3) and (–2, 1), (–6, 1), (–6, 3), (–4, 3)
2. (1, 1), (4, 4), (4, 6), (1, 3) and (–1, 1), (–4, 4), (–4, 6), (–1, 3)
3. (4, 1), (7, 1), (4, 5) and (2, 1), (–1, 1), (2, 5)
4. (2, 0), (2, 4), (4, 2) and (0, 0), (0, 4), (–2, 2)

Think. Answers will vary.

Page 35

1. (1, 1), (4, 1), (3, 2), (4, 4) and (–1, 1), (–4, 1), (–3, 2), (–4, 4)
2. (1, 2), (3, 1), (4, 4) and (–1, 2), (–3, 1), (–4, 4)
3. (4, 2), (4, 7), (6, 6) and (0, 2), (0, 7), (–2, 6)
4. (–1, 1), (–1, 5), (–2, 5), (–2, 2), (–3, 2), (–3, 1) and (3, 1), (3, 5), (4, 5), (4, 2), (5, 2), (5, 1)

Think. Answers will vary.

Page 36

1. E, cube
2. A, cuboid
3. B, square-based pyramid
4. C, tetrahedron
5. D, triangular prism

Think. A net of a cube different from the one shown at E.

Page 37

1. cube
2. square-based pyramid
3. cuboid
4. tetrahedron
5. triangular prism

Think. There is only one other net for a tetrahedron.

Page 38

Questions should be answered using column addition.

1. 47 745
2. 84 427
3. 70 366
4. 78 283
5. 60 925
6. 62 187
7. 58 180
8. 42 679
9. 77 387
10. 40 125

Think. Largest total is 183 951. The added units are 0 & 1, the 10s are 3 & 2, the 100s are 5 & 4, the 1000s are 7 & 6, the 10 000s are 9 & 8.

Page 39

Questions should be answered using column addition.

1. 65 866
2. 78 239
3. 79 014
4. 81 273
5. 99 641
6. 93 547
7. 77 928
8. 80 165
9. 74 408
10. 93 788
11. 102 906
12. 103 672

Think. Largest total is 183 951. The added unitss are 0 & 1, the 10s are 3 & 2, the 100s are 5 & 4, the 1000s are 7 & 6, the 10 000s are 9 & 8.; smallest total is 34 047. The added units are 8 & 9, the 10s are 6 & 7, the 100s are 5 & 4, the 1000s are 3 & 0, the 10 000s are 1 and 2. 12345 + 9876 = 22 221.

Page 40

Questions should be answered using column subtraction.

1. 25 182
2. 13 732
3. 16 233
4. 15 356
5. 64 284
6. 17 914
7. 13 662
8. 9491
9. 6212

Think. Answers will vary, for example: 65411 – 55920 = 9491
10. 9491 + 55920 = 65411

Page 41

Questions should be answered using column subtraction.

1. 22 646
2. 18 255
3. 18 264
4. 31 247
5. 14 876
6. 28 225
7. 19 092
8. 29 045
9. 21 727
10. 17 135
11. 11 272
12. 27 828

Think. Answers will vary.

Page 42

1. Answers involve the digits 1, 9, 8 and sometimes zero, and are all multiples of 9, for example, 109 890, 109 989, 19 998 and so on.

Page 43

1. 11 753
2. 87 999
3. 4764
4. 103 630
5. 31 377 km
6. 90 223 kg

Page 44

1. 60 000 – 39 899 = 20 101
2. 70 009 – 50 945 = 19 064
3. 20 300 – 9872 = 10 428
4. 41 000 – 35 295 = 5705
5. 80 002 – 45 326 = 34 676
6. 32 500 – 8925 = 23 575
7. 20 006 – 12 526 = 7480
8. 10 010 – 2645 = 7365
9. 60 007 – 44 982 = 15 025
10. 35 002 – 29 798 = 5204
11. 50 020 – 3775 = 46 245
12. 42 000 – 5894 = 36 106

Think. Answers will vary.

Page 45

Questions 1 – 8 should be answered using column subtraction.

1. 31 608
2. 13 722
3. 5174
4. 7181
5. 16 221
6. 14 721
7. 1729
8. 12 282
9. £7017
10. 8891
11. 7866 km

Think. Answers will vary.

Page 46

Questions should be answered using column addition or subtraction.

1. 83 499
2. 90 998
3. 61 398
4. 12 585
5. 12 491
6. 32 697
7. 73 356
8. 13 785

Think. Answers will vary.

Page 47

1. 3, 3; Prime factors for 36 = $2 \times 2 \times 3 \times 3$
2. 5, 5; Prime factors for 50 = $2 \times 5 \times 5$
3. 2, 7; Prime factors for 28 = $2 \times 2 \times 7$
4. 24; 2, 12 OR 4, 6; Prime factors for 48 = $2 \times 2 \times 2 \times 2 \times 3$
5. 2; 2, 14 OR 4, 7; Prime factors for 56 = $2 \times 2 \times 2 \times 7$
6. 2, 30; 2, 15 OR 3, 20; 2, 10 OR 3, 20; 4, 5; Prime factors for 60 = $2 \times 2 \times 3 \times 5$
7. $38 = 2 \times 19$
8. $18 = 2 \times 3 \times 3$
9. $51 = 3 \times 17$
10. $54 = 2 \times 3 \times 3 \times 3$
11. $57 = 3 \times 19$
12. $42 = 2 \times 3 \times 7$
13. $104 = 2 \times 2 \times 2 \times 13$
14. $70 = 2 \times 5 \times 7$
15. $144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$
16. $120 = 2 \times 2 \times 2 \times 3 \times 5$
17. $108 = 2 \times 2 \times 3 \times 3 \times 3$
18. $250 = 2 \times 5 \times 5 \times 5$

Think. Numbers that do not have 2 as a prime factor, for example, 9, 15 and 21. Numbers that only have 2 as a factor are in the sequence 2, 4, 8, 16, 32…

Page 48

Think. $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ (or $\frac{2}{5}$), $\frac{1}{6}$ (or $\frac{2}{6}$), $\frac{1}{7}$ (or $\frac{2}{7}$ or $\frac{3}{7}$), $\frac{1}{8}$ (or $\frac{2}{8}$ or $\frac{3}{8}$), $\frac{1}{9}$ (or $\frac{2}{9}$, $\frac{3}{9}$ or $\frac{4}{9}$), $\frac{1}{10}$ (or $\frac{2}{10}$, $\frac{3}{10}$ or $\frac{4}{10}$)

1. $\frac{2}{3} > \frac{2}{6}$
2. $\frac{1}{3} < \frac{4}{9}$
3. $\frac{1}{2} < \frac{5}{8}$
4. $\frac{1}{4} < \frac{3}{8}$
5. $\frac{4}{5} > \frac{7}{10}$
6. $\frac{3}{4} < \frac{7}{8}$

Page 49

1. $\frac{6}{9} > \frac{4}{9}$
2. $\frac{8}{10} > \frac{3}{10}$
3. $\frac{5}{6} > \frac{4}{6}$
4. $\frac{3}{8} < \frac{4}{8}$
5. $\frac{6}{8} > \frac{5}{8}$
6. $\frac{3}{9} > \frac{2}{9}$
7. $\frac{7}{8} > \frac{6}{8}$
8. $\frac{7}{12} < \frac{9}{12}$
9. $\frac{10}{12} < \frac{11}{12}$
10. $\frac{8}{12} > \frac{7}{12}$

Think. Answers will vary, for example, $\frac{1}{2}$, $\frac{1}{6}$, $\frac{1}{3}$.

Page 50

1. $\frac{3}{8} + \frac{5}{8} = \frac{8}{8} = 1$
2. $\frac{3}{7} + \frac{2}{7} = \frac{5}{7}$
3. $\frac{3}{4} + \frac{3}{4} = \frac{6}{4} = 1\frac{1}{2}$
4. $\frac{7}{8} + \frac{5}{8} = \frac{12}{8} = 1\frac{1}{2}$
5. $\frac{4}{5} + \frac{3}{5} = \frac{7}{5} = 1\frac{2}{5}$
6. $\frac{2}{3} + \frac{2}{3} = \frac{4}{3} = 1\frac{1}{3}$
7. $\frac{2}{8} + \frac{1}{8} = \frac{3}{8}$
8. $\frac{6}{8} + \frac{1}{8} = \frac{7}{8}$
9. $\frac{5}{8} + \frac{2}{8} = \frac{7}{8}$
10. $\frac{7}{8} + \frac{4}{8} = \frac{11}{8} = 1\frac{3}{8}$
11. $\frac{2}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$
12. $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$
13. $\frac{5}{6} + \frac{2}{6} = \frac{7}{6} = 1\frac{1}{6}$
14. $\frac{4}{6} + \frac{4}{6} = \frac{8}{6} = 1\frac{1}{3}$

Think. Answers will vary, for example, $\frac{1}{3}$ and $\frac{1}{6}$.

Page 51

1. $\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$
2. $\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$
3. $\frac{2}{5} + \frac{3}{10} = \frac{7}{10}$
4. $\frac{1}{2} + \frac{3}{8} = \frac{7}{8}$
5. $\frac{1}{3} + \frac{1}{9} = \frac{4}{9}$
6. $\frac{7}{10} + \frac{1}{5} = \frac{9}{10}$
7. $\frac{1}{9} + \frac{2}{3} = \frac{7}{9}$
8. $\frac{2}{3} + \frac{5}{6} = \frac{9}{6} = 1\frac{1}{2}$
9. $\frac{5}{8} + \frac{3}{4} = \frac{11}{8} = 1\frac{3}{8}$
10. $\frac{1}{3} + \frac{7}{9} = \frac{10}{9} = 1\frac{1}{9}$
11. $\frac{3}{4} + \frac{5}{12} = \frac{14}{12}$ or $1\frac{1}{6}$
12. $\frac{2}{3} + \frac{4}{9} = \frac{10}{9} = 1\frac{1}{9}$
13. $\frac{7}{12} + \frac{2}{3} = \frac{15}{12}$ or $1\frac{1}{4}$

Think. Answers will vary.

Page 52

1. Answers will vary.

Page 53

1. $\frac{5}{6} - \frac{2}{3} = \frac{1}{6}$
2. $\frac{2}{3} - \frac{1}{6} = \frac{3}{6}$ or $\frac{1}{2}$
3. $\frac{1}{3} - \frac{1}{6} = \frac{1}{6}$
4. $\frac{7}{8} - \frac{3}{4} = \frac{1}{8}$
5. $\frac{5}{8} - \frac{1}{4} = \frac{3}{8}$
6. $\frac{7}{8} - \frac{1}{4} = \frac{5}{8}$
7. $\frac{9}{10} - \frac{1}{5} = \frac{7}{10}$
8. $\frac{7}{10} - \frac{2}{5} = \frac{3}{10}$
9. $\frac{4}{5} - \frac{3}{10} = \frac{5}{10} = \frac{1}{2}$
10. $\frac{2}{3} - \frac{1}{9} = \frac{5}{9}$
11. $\frac{8}{9} - \frac{2}{3} = \frac{2}{9}$
12. $\frac{7}{9} - \frac{1}{3} = \frac{4}{9}$
13. $\frac{1}{2} - \frac{1}{8} = \frac{3}{8}$
14. $\frac{1}{2} - \frac{1}{6} = \frac{2}{6} = \frac{1}{3}$
15. $\frac{1}{2} - \frac{3}{8} = \frac{1}{8}$

Think. Answers will vary.

Page 54

1. $\frac{1}{2} - \frac{1}{8} = \frac{3}{8}$
2. $\frac{1}{2} - \frac{1}{6} = \frac{2}{6} = \frac{1}{3}$
3. $\frac{1}{2} - \frac{1}{12} = \frac{5}{12}$
4. $\frac{7}{8} - \frac{1}{2} = \frac{3}{8}$
5. $\frac{7}{8} - \frac{1}{4} = \frac{5}{8}$
6. $\frac{7}{8} - \frac{3}{4} = \frac{1}{8}$
7. $\frac{5}{6} - \frac{2}{3} = \frac{1}{6}$
8. $\frac{5}{8} - \frac{1}{4} = \frac{3}{8}$
9. $\frac{2}{3} - \frac{1}{9} = \frac{5}{9}$
10. $\frac{9}{12} - \frac{1}{2} = \frac{3}{12} = \frac{1}{4}$
11. $\frac{5}{12} - \frac{1}{3} = \frac{1}{12}$
12. $\frac{7}{9} - \frac{1}{3} = \frac{4}{9}$
13. $\frac{3}{4} - \frac{5}{12} = \frac{4}{12} = \frac{1}{3}$
14. $\frac{11}{12} - \frac{2}{3} = \frac{3}{12} = \frac{1}{4}$
15. $\frac{9}{10} - \frac{1}{5} = \frac{7}{10}$

Think. Answers will vary, but might include changing denominators to 6 or 12.

Page 55

1. $542 \div 4 = 135\frac{2}{4}$ or $135\frac{1}{2}$
2. $732 \div 4 = 183$
3. $239 \div 4 = 59\frac{3}{4}$
4. $341 \div 4 = 85\frac{1}{4}$
5. $721 \div 6 = 120\frac{1}{6}$
6. $863 \div 6 = 143\frac{5}{6}$
7. $521 \div 6 = 86\frac{5}{6}$
8. $444 \div 6 = 74$
9. $928 \div 7 = 132\frac{4}{7}$
10. $750 \div 7 = 107\frac{1}{7}$
11. $583 \div 7 = 83\frac{2}{7}$
12. $472 \div 7 = 67\frac{3}{7}$
13. $924 \div 8 = 115\frac{4}{8}$ or $115\frac{1}{2}$
14. $565 \div 8 = 70\frac{5}{8}$
15. $441 \div 8 = 55\frac{1}{8}$
16. $607 \div 8 = 75\frac{7}{8}$
17. 31
18. 40

Think. $284 \div 6 = 47\frac{1}{3}$

Page 56

1. $437 \div 3 = 145\frac{2}{3}$
2. $914 \div 4 = 228\frac{2}{4}$ or $228\frac{1}{2}$
3. $739 \div 2 = 369\frac{1}{2}$
4. $652 \div 5 = 130\frac{2}{5}$
5. $743 \div 6 = 123\frac{5}{6}$
6. $861 \div 4 = 215\frac{1}{4}$
7. $916 \div 7 = 130\frac{6}{7}$
8. $838 \div 3 = 279\frac{1}{3}$
9. $1058 \div 4 = 264\frac{2}{4}$ or $264\frac{1}{2}$
10. 10–15. Answers will vary.

Think. There are 34 numbers divisible by 3 between 200 and 300, (from 201 to 300 inclusive) there are 33 that give a remainder of 1 when divided by 3 and 33 that give a remainder of 2.

Page 57

1. $7484 \div 6 = 1247$ r 2
2. $5863 \div 4 = 1465$ r 3
3. $5863 \div 9 = 651$ r 4
4. $9285 \div 7 = 1326$ r 3
5. $4750 \div 3 = 1583$ r 1
6. $7071 \div 6 = 1178$ r 3
7. $9204 \div 8 = 1150$ r 4
8. $5765 \div 7 = 823$ r 4
9. $2863 \div 8 = 357$ r 7
10. 1140 r 2, 1821 r 3, 1635 r 1
11. 1642 r 5, 1184 r 3, 1433 r 4
12. 1165 r 6, 1139 r 3, 1114 r 4

Think. Answers will vary, but an example would include:
$1247 \times 6 + 2 = 7484$.

Page 58

1. 1754 r 1, 448 r 1, 1406 r 2
2. 1563 r 1, 933 r 2, 1046 r 1
3. 1393 r 4, 893 r 5, 1103 r 1
4. 1171 r 1, 779 r 2, 705 r 4
5. 1193 r 1, 748 r 3, 1066 r 6

Think. Answers will vary but the 4-digit number must be divided by 8 or 9 and have an answer with a remainder of 7.

Page 59

1. Day 1 £6188, Day 2 £7497, Day 3 £9826
2. Day 1 £5544, Day 2 £6672, Day 3 £8580
3. Day 1 £2304, Day 2 £6822, Day 3 £10 944

Think. $443 \times 13 = 5759$,
$318 \times 19 = 6042$

Page 60

1. Day 1 £5152, Day 2 £7472, Day 3 £19 936
2. Day 1 £7319, Day 2 £11 427, Day 3 £28 366
3. Day 1 £10 020, Day 2 £15 084, Day 3 £44 196

Think. 4

Page 61

1. Ice-cream vouchers from 12pm to 1pm: 50 772
2. Ice-cream vouchers from 1pm to 2pm: 78 324
3. Ice-cream vouchers from 2pm to 3pm: 29 208
4. Water vouchers from 12pm to 1pm: 63 465
5. Water vouchers from 1pm to 2pm: 97 905
6. Water vouchers from 2pm to 3pm: 36 510
7. Juice vouchers from 12pm to 1pm: 67 696
8. Juice vouchers from 1pm to 2pm: 104 432
9. Juice vouchers from 2pm to 3pm: 38 944

Think. $5432 \times 16 = 86\ 912$, $3456 \times 12 = 41\ 472$

Page 62

Estimates also given for each answer:
1. $5000 \times 20 = 10\ 000$; $4983 \times 18 = 89\ 694$
2. $3000 \times 20 = 60\ 000$; $2648 \times 18 = 47\ 664$
3. $8000 \times 20 = 160\ 000$; $7553 \times 18 = 135\ 954$
4. $4000 \times 20 = 80\ 000$; $3759 \times 18 = 67\ 662$
5. $8000 \times 20 = 160\ 000$; $8136 \times 18 = 146\ 448$
6. $9000 \times 20 = 180\ 000$; $9254 \times 18 = 166\ 572$
7. $7000 \times 20 = 140\ 000$; $6613 \times 18 = 119\ 034$
8. $8000 \times 20 = 160\ 000$; $8496 \times 18 = 152\ 928$

Think. 3

Page 63

1. $472 \div 3 = 157\frac{1}{3}$
2. $158 \div 4 = 39\frac{1}{2}$
3. $729 \div 6 = 121\frac{1}{2}$
4. $6257 \div 5 = 1251\frac{2}{5}$
5. $8238 \div 6 = 1373$
6. $3279 \div 4 = 819\frac{3}{4}$
7. $327 \times 16 = 5232$
8. $472 \times 12 = 5664$
9. $635 \times 13 = 8255$
10. $2341 \times 12 = 28\ 092$
11. $4279 \times 14 = 59\ 906$
12. $3524 \times 16 = 56\ 384$

Think. Answers will vary.

Page 64

1. Area 15 cm², Perimeter 16 cm
2. Area 24 cm², Perimeter 20 cm
3. Area 35 cm², Perimeter 24 cm
4. Area 24 cm², Perimeter 22 cm
5. Area 24 cm², Perimeter 28 cm
6. Area 36 cm², Perimeter 24 cm

Think. 26 cm, 32 cm, 20 cm.

Page 65

1. Area 28 m², Perimeter 22 m
2. Area 56 m², Perimeter 36 m
3. Area 54 m², Perimeter 30 m
4. Area 72 m², Perimeter 34 m
5. Area 51 m², Perimeter 40 m
6. Area 96 m², Perimeter 44 m
7. The perimeter of garden 6 is twice that of garden 1.

Think. No they do not have the same area. Rectangles drawn with a perimeter of 12 units, for example, 1 × 5, 2 × 4, 3 × 3, will have areas of 5, 8 or 9 square units respectively.

Page 66

1. approx 13 unit²
2. approx 10 unit²
3. approx 11 unit²
4. Area 33 cm², Perimeter 28 cm
5. Area 29 cm², Perimeter 24 cm
6. Area 20 cm², Perimeter 30 cm
7. Area 42 cm², Perimeter 42 cm

Think. Answers will vary.

Page 67

1. Area 21 m², Perimeter 20 m
2. Area 69 m², Perimeter 38 m
3. Area 74 m², Perimeter 40 m
4. Area 147 m², Perimeter 56 m
5. Area 118 m², Perimeter 56 m
6. Area 610 m², Perimeter 130 m

Think. 9 cm²

Page 68

1. 6 cm
2. 3 cm
3. 9 cm
4. 4 cm
5. 10 cm
6. 3 cm
7. 6 cm
8. 5 cm
9. 3 cm
10. 8 cm

Think. 2 cm and 5 cm

Page 69

1. 5 cm, Perimeter 18 cm
2. 7 cm, Perimeter 20 cm
3. 6 cm, Perimeter 20 cm
4. 8 cm, Perimeter 22 cm
5. 6 cm, Perimeter 26 cm
6. 3 cm, Area 21 cm²
7. 5 cm, Area 45 cm²
8. 7 cm, Area 28 cm²
9. 6 cm, Area 48 cm²
10. 7 cm, Area 63 cm²

Think. The shape could be a rectangle. Sides of 7 cm and 3 cm.

Page 70

1. 100 cm³
2. 60 cm³
3. 160 cm³
4. 48 cm³
5. 200 cm³
6. 330 cm³

Think. 5 cm

Page 71

1. 288 ml
2. 300 ml
3. 132 ml
4. 96 ml
5. 400 ml
6. 343 ml

Think. Answers may vary, for example, 10 cm × 10 cm × 10 cm.

Page 72

1. Area 34 cm², Perimeter 28 cm
2. Area 39 cm², Perimeter 32 cm
3. Area 39 cm², Perimeter 32 cm
4. 1200 cm³, 1200 ml
5. 280 cm³, 280 ml

Think. 8 cm; cuboids with a capacity of 480 ml.

Page 73

1. 10%, $\frac{10}{100} = \frac{1}{10}$
2. 25%, $\frac{25}{100} = \frac{1}{4}$
3. 30%, $\frac{30}{100} = \frac{3}{10}$
4. 80%, $\frac{80}{100} = \frac{4}{5}$
5. 50%, $\frac{50}{100} = \frac{1}{2}$
6. 15%, $\frac{15}{100} = \frac{3}{20}$
7. 95%, $\frac{95}{100} = \frac{19}{20}$
8. 75%, $\frac{75}{100} = \frac{3}{4}$
9. 10%
10. 70%
11. 35%
12. 25%
13. 50%
14. 70%
15. 75%
16. 20%

Think. Answers will vary.

Page 74

1. 60%, 40%
2. 30%, 70%
3. 15%, 85%
4. 75%, 25%
5. 40%, 60%
6. 22%, 78%
7. 83%, 17%
8. 43%, 57%
9. 80%
10. 10%
11. 45%
12. 95%
13. 1%
14. 50%
15. 25%
16. 75%
17. 20%
18. 70%
19. $\frac{30}{100}$ or $\frac{3}{10}$
20. $\frac{25}{100}$ or $\frac{1}{4}$
21. $\frac{90}{100}$ or $\frac{9}{10}$
22. $\frac{20}{100}$ or $\frac{1}{5}$
23. $\frac{10}{100}$ or $\frac{1}{10}$
24. $\frac{75}{100}$ or $\frac{3}{4}$
25. $\frac{70}{100}$ or $\frac{7}{10}$
26. $\frac{110}{100}$ or $\frac{11}{10}$

Think. Answers will vary.

Page 75

1. $\frac{1}{2}$, 50%
2. $\frac{1}{4}$, 25%
3. $\frac{1}{10}$, 10%
4. $\frac{3}{4}$, 75%
5. $\frac{7}{10}$, 70%
6. $\frac{9}{10}$, 90%
7. £20, £10
8. £30, £15
9. £10, £5
10. £40, £20
11. £12, £6
12. £18, £9
13. £3, £6, £9
14. £5, £10, £15
15. £2·50, £5, £7·50

Think. 25% of £40 = £10

Page 76

1.

Amount	10%	20%	30%	40%	50%	60%	70%	80%	90%	15%
£50	£5	£10	£15	£20	£25	£30	£35	£40	£45	£7·50
£120	£12	£24	£36	£48	£60	£72	£84	£96	£108	£18
£70	£7	£14	£21	£28	£35	£42	£49	£56	£63	£10·50
£25	£2·50	£5	£7·50	£10	£12·50	£15	£17·50	£20	£22.50	£3·75

2. £30, £40
3. £24, £36
4. £36, £54
5. £15, £22·50
6. £200, 25%

Think. No, 20% prefer meat.

Page 77

1.

Amount	50%	25%	75%	10%	5%	1%
£80	£40	£20	£60	£8	£4	£0·80
£120	£60	£30	£90	£12	£6	£1.20
£60	£30	£15	£45	£6	£3	£0·60

2. £41·60
3. £72
4. £68
5. £27·60
6. £72
7. £88·80
8. £29·40
9. £39
10. £11·40
11. £20
12. £40
13. £54
14. £60
15. £95
16. £12
17. £20
18. £34
19. 6 hours
20. £11·15

Page 78

1. $\frac{1}{4}$, 25%, 0·25
2. $\frac{1}{10}$, 10%, 0·1
3. $\frac{3}{4}$, 75%, 0·75
4. $\frac{9}{10}$, 90%, 0·9
5. $\frac{2}{10}$, 20%, 0·2
6. $\frac{1}{2}$, 50%, 0·5
7. 0·8
8. 0·9
9. 0·21
10. 0·37
11. 0·86

12. 0·01
13. 0·07
14. 1·21
15. $\frac{90}{100}$
16. $\frac{20}{100}$
17. $\frac{35}{100}$
18. $\frac{89}{100}$
19. $\frac{60}{100}$
20. $\frac{11}{100}$
21. $\frac{23}{100}$
22. $\frac{56}{100}$

Think. No, 30% do not.

Page 79

1.

Fraction	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{10}$	$\frac{3}{4}$	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{1}{100}$	$\frac{1}{50}$
Percentage	50%	25%	10%	75%	20%	40%	1%	2%
Decimal	0·5	0·25	0·1	0·75	0·2	0·4	0·01	0·02

2. 4
3. £20
4. 34 cm
5. 11 kg
6. £9
7. 5·5 cm
8. 1·2 kg

Think. £40, £80

Page 80

1. $\frac{1}{5}$
2. 15%
3. Less than (it is 30%).
4. red
5. blue
6. 0·1
7. $\frac{2}{10}$ or $\frac{1}{5}$
8. $\frac{9}{10}$
9. $\frac{6}{10}$
10. $\frac{8}{10}$ or $\frac{4}{5}$
11. 20%, 0.2; 90%, 0·9; 60%, 0·6; 80%, 0·8

Think. Answers will vary but should be percentages between 25% and 40%.

Page 81

1. 75%
2. $\frac{3}{5}$ or equivalent
3. 25%
4. 30%
5. $\frac{2}{5}$ or equivalent
6. 75%
7. $\frac{1}{20}$
8. $\frac{9}{20}$ or equivalent

Think. Both schools make the same amount of dinners, 150.

Page 82

1. MDCCXCI
2. MDCCCXXII
3. MCMXVIII
4. MCMXXXVI
5. MCMLXI
6. MCMLXXI
7. MCMLXXXI
8. MCMLXXXII
9. MCMXCI
10. MCMXCV
11. MCMXCVII
12. MMVII

Think. MCMXLII

Page 83

1. 8
2. $3 \times 3 \times 3 = 27$
3. $4 \times 4 \times 4 = 64$
4. $5 \times 5 \times 5 = 125$
5. $6 \times 6 \times 6 = 216$
6. 343, 512, 729

Think. 64, 729

Page 84

1. 800R = £10
2. 240R = £3
3. 440R = £5·50
4. 480R = £6
5. 360R = £4·50
6. 1600R = £20
7. 1200R = £15
8. 4000R = £50
9. 200R = £2·50
10. 240R
11. 400R
12. 800R
13. 1200R
14. 3200R

Think. 120, 200 and other varying answers.

Page 85

1. 14°C
2. 23°C
3. 30°C
4. 23°C
5. 15 degrees
6. 3 pm, 5 am
7. 31 °C, 12 °C

Think. Answers will vary, but should make it clear that temperatures will be much lower.

Page 86

1. Line graph drawn.
2. 23°C
3. 16 degrees
4. 12 degrees
5. Answers may vary but should be less than 17 °C and between 4 am and 6 am.

Think. Two line graphs, one showing temperatures changing over a summer day, the other showing cooler temperatures changing over a winter day.

Page 87

1. 19:05
2. 02:15
3. 18:42
4. 20:25
5. 09:53
6. 16:30
7. true
8. false
9. true
10. 10:10
11. 12:06
12. 32 minutes

Think. 10:35, 10:40, 10:45, 10:50, 10:55

Page 88

1. 46 minutes
2. 10:26, 1 hour 47 minutes
3. 11:08, 1 hour 38 minutes
4. 06:10, 07:43, 08:39
5. 1 hour 27 minutes
6. The 10:43 from London.

Think. They have the same digits. Other answers will vary.

Page 89

1. 12:32
2. 12:53
3. 13:40
4. 17:28
5. 16:52
6. 00:29

Think. Departure times: 10:20, 10:25, 10:30, 10:35, 10:40, 10:45, 10:50, 10:55. Arrival times: 11:02, 11:07, 11:12, 11:17, 11:22, 11:27, 11:32, 11:37.

Page 90

1. 79 cm, 29 cm
2. 85 cm, 43 cm
3. 18 cm, 8 cm
4. 152 cm, 70 cm
5. 271 cm, 91 cm
6. 305 cm, 152 cm

Think. Answers will vary, but should really be no taller than 2 m. A reasonable answer would be $\frac{1}{200}$ and 1·62 m.

Page 91

1. $10 \times 420 = 4200$; $5 \times 420 = 2100$; $20 \times 420 = 8400$
2. $3 \times 35 = 105$; $6 \times 35 = 210$; $9 \times 35 = 315$; $30 \times 35 = 1050$
3. $100 \times 28 = 2800$; $50 \times 28 = 1400$; $25 \times 28 = 700$
4. $2 \times 47 = 94$; $4 \times 47 = 188$; $8 \times 47 = 376$
5. $4 \times 31 = 124$; $4 \times 62 = 248$; $8 \times 31 = 248$; $4 \times 124 = 496$
6. $3 \times 44 = 132$; $3 \times 88 = 264$; $6 \times 44 = 264$; $3 \times 132 = 396$
7. $10 \times 365 = 3650$; $5 \times 365 = 1825$; $20 \times 365 = 7300$; $25 \times 365 = 9125$

Think. Answers will vary, but multiplying by 5 might involve multiplying by 10 then halving. By 9 might be multiplying by 10 then taking away 1 group of that number. Multiplying by 50 might involve multiplying by 100, then halving.

Page 92
1. 28 × 8 = 224; 28 × 24 = 672
2. 7 × 8 = 56; 7 × 24 = 168
3. 46 × 8 = 368; 46 × 24 = 1104
4. 18 × 8 = 144; 18 × 24 = 432
5. 9 minutes
6. 32 minutes
7. 62 minutes
8. 3300 minutes

Think. 1 hour 2 minutes, 55 hours; 2 days and 7 hours

Page 93
1. 80 cm², 800 ml
2. 21:40
3. Trapezium; (−2, 3), (−2, 4), (−5, 4), (−6, 3)
4. £33 200, £23 332
5. 185
6. Jake has more. Jake has £14·75, Katie has £14·70.
7. 4 minutes to midday

Page 94
answers to q 6, 7, 9, 18, 19, 21 to be found using column addition/ subtraction
1. £2·40 + £3·99 + 50p = £6·89
2. $\frac{2}{5} + \frac{3}{10} = \frac{7}{10}$
3. 44 × 13 = 572
4. 50% of £68 = £34
5. 75% of £72 = £54
6. 70 366
7. 13 732
8. 168 × 13 = 2184
9. 5176
10. $\frac{8}{9} - \frac{2}{3} = \frac{2}{9}$
11. 444 ÷ 6 = 74
12. 5893 ÷ 9 = 654 $\frac{7}{9}$ or 654 r7
13. 322 × 5 = 1610
14. 4 × $\frac{3}{10}$ = $\frac{12}{10}$ = 1 $\frac{1}{5}$
15. 124 × 14 = 1736
16. $\frac{5}{8}$ × 3 = $\frac{15}{8}$ = 1 $\frac{7}{8}$
17. $\frac{2}{3} - \frac{1}{9} = \frac{5}{9}$
18. 77 387
19. 37 905
20. 877 × 18 = 15 786
21. 1729
22. 2145 × 4 = 8580
23. 607 ÷ 8 = 75 $\frac{7}{8}$ or 75 r7
24. 7071 ÷ 6 = 1178 $\frac{1}{2}$ or 1178 r3
25. 11 334
26. 8

Page 95
Answers will vary.
1. 973 × 8 = 7784
2. 127 × 6 = 762
3. Answers will vary. For example 973 × 8 = 7784
4. Answers will vary. For example 843 × 6 = 5058
5. Answers will vary. For example 852 × 6 = 5112
6. Answers will vary. For example 618 × 8 = 4994
7. Answers will vary. For example 852 × 14 = 11 928
8. Answers will vary. For example 254 × 12 = 3048
9. Answers will vary. For example 164 × 14 = 2296
10. Answers will vary. For example 254 × 12 = 3048
11. Answers will vary. For example 253 × 14 − 253 × 13 = 253