

Page 4

- 21 738, 34 567, 78 210
 - 123 431, 146 379, 203 483
 - 4 321 709, 7 124 976, 7 643 245
 - Any number between 30 000 and 40 000.
 - Any number between 300 000 and 400 000.
 - Any number between 3 000 000 and 4 000 000.
 - Possible answers: 42 536 > 34 917, 52 436 > 34 917, 52 336 > 44 917
 - 7 652 999, 7 653 000
 - 2400, 2390
 - 15 915, 15 920
- Think. Four numbers: 9 876 543, 8 765 432, 7 654 321, 6 543 210

Page 5

- Answers will vary, e.g. 4 372 135 < 7 816 099
 - Answers will vary, e.g. 8 233 087 < 8 557 291
 - Answers will vary, e.g. 7 622 371 < 7 655 679
 - Any 7-digit number made with the digits 1 to 7 greater than 3 000 000 but less than 4 000 000.
 - Any 7-digit number made with the digits 1 to 7 greater than 2 500 000 but less than 3 000 000.
 - Any 7-digit number made with the digits 1 to 7 greater than 6 400 000 but less than 6 500 000.
 - 425 710, 472 911, 639 820, 651 207
 - 4 510 246, 4 876 024, 5 217 692, 8 217 390
 - 18 361, 27 594, 45 986, 54 233
- Think. Answers will vary.

Page 6

- 3 029 134, 3 045 678, 3 124 678, 3 456 213
- 663 109, 746 201, 746 213, 764 327
- 2 780 125, 2 782 478, 2 786 521, 2 792 431
- Answers will vary.
- 498 710
- Answers will vary, e.g. 6 351 829 < 6 371 420

- False
- False
- True
- True

Page 7

- $21.34 < 21.43$
 - Answers will vary, e.g. $76.01 > 75.34$
 - $0.03 = \frac{3}{100}, \frac{1}{4} = 0.25$,
 $0.7 = \frac{7}{10}, \frac{47}{100} = 0.47$
 - 6
 - 10
 - 8
 - $\frac{6}{10}$, and $\frac{60}{100}$
- Think. Answers will vary, e.g. 0.45 and 0.451 or 0.249 and 0.25.

Page 8

- $2.83 \rightarrow 2.8 \rightarrow 3$
 - $7.51 \rightarrow 7.5 \rightarrow 8$
 - $5.32 \rightarrow 5.3 \rightarrow 5$
 - $0.06, 0.16, \frac{1}{6}, 0.62, \frac{63}{100}$
 - 2.9 and 3.1
 - 4.5 and 4.65 correctly placed on the line.
 - $\frac{3}{10}$
 - $\frac{7}{10}$
 - $\frac{1}{8}$
 - $\frac{36}{100}$ or $\frac{9}{25}$
 - $\frac{271}{100}$
 - $\frac{313}{1000}$
- Think. Answers will vary. The smallest possible difference is 0.001, e.g. 0.2 and 0.199 or 0.4 and 0.401

Page 9

- 45 000
 - 2650
 - 270
 - 0.7
 - 970
 - 4.73
 - 87 200
 - 14
 - 1.8
 - 261.5
 - 0.64
 - 13.7
- Think. 4

Page 10

- 263.8
 - 4720
 - 91.7
 - 163 520
 - 2.64
 - 29.6
 - 0.82
 - 7.285
 - 619
 - 932 700
 - 35
 - 85 400
 - 0.287
 - 165.82
 - 7.81
 - 46.03
 - 4.3
 - 82
 - 1.5
 - 158
- Think. True

Page 11

5452 880	5452 900	5453 000	5450 000
372 560	372 600	373 000	370 000
7408 400	7408 400	7408 000	7410 000
85 720	85 700	86 000	90 000
576 060	576 100	576 000	580 000

17	16.6	16.57
29	28.9	28.91
2	1.7	1.70
35	34.6	34.57
12	12.0	12.05

- Answers will vary. Think. 3.49 and 3.50. They can have a difference of 0.01.

Page 12

- 17, -7.7, -7, 1.7, 27
 - 48, -9, -2.1, 12, 53
 - 1
 - 7
 - 2
 - 18 °C
 - 32 °C
 - Number line with -5 and -9 marked.
- Think. 17 °C, 18 °C, 19 °C.

Page 13

1. -28, -27, -5, 5, 13, 26
2. -1.5, -1, -0.5, 0, 0.5, 1.5
3. -12.8 and -11.8, -13.5 and -14.5, -11.4 and -12.4
4. 52 °C
5. 39 °C
6. Answers may vary, e.g. -10 °C and 10 °C.
7. Number line with -0.45 and 1.5 marked.

Think. Answers will vary.

Page 14

1. Number line with -7 marked.
2. Number line with -7 marked.
3. Number line with -7 marked.
4. 218
5. 264
6. -26
7. -32
8. -19
9. -1
10. 29 °C

Think. Answers will vary.

Page 15

1. $271 + 824 = 1095$
2. $900 + 952 = 1852$
3. $26\,300 - 14\,250 = 12\,050$
4. $8615 - 2763 = 5852$
5. $16\,528 - 7999 = 8529$
6. $27\,298 + 16\,597 = 43\,895$
7. $7595 - 4070 = 3525$
8. $37 + 46 + 85 + 78 = 246$
9. £193.60
10. £4957
11. £21 853, £37 153

Think. Answers will vary. Answers could involve the fact that the numbers are relatively close together so counting up will work. Written (column) subtraction will work easily as there's only 1 carry.

Page 16

1. $219 + 126 = 345$
2. $67\,423 - 28\,416 = 39\,007$
3. $12\,406 + 5092 = 17\,498$
4. $8429 + 34\,966 = 43\,395$
5. $10\,000 - 9417 = 583$
6. $476 - 298 = 178$
7. $721 + 63 + 490 = 1274$
8. $81\,307 - 15\,999 = 65\,308$

9. $346\,297 + 154\,832 = 501\,129$
10. $3\,498\,250 + 2\,200\,409 = 5\,698\,659$
11. £52.80
12. 39 394, 7995

Think. Answers will vary. They might include few carries and be relatively close together.

Page 17

1. 10, 6
2. 2.74 m
3. 12, 14
4. 2.77 m
5. 4.6 cm or 46 mm
6. 3.145 kg or 3145 g
7. 4930

Think. Answers will vary.

Page 18

1. $20.61 + 30.07 = 50.68$
2. $35.28 - 23.16 = 12.12$
3. $13.58 + 6.31 = 19.89$
4. $14.54 + 3.21 = 17.75$
5. $7.84 - 3.22 = 4.62$
6. $27.96 + 13.62 = 41.58$
7. $49.63 - 31.99 = 17.64$
8. $12.87 - 4.99 = 7.88$
9. $67.77 + 6.99 = 74.76$
10. $26.38 + 15.99 = 42.37$
11. $70.44 + 8.98 = 79.42$
12. $61.23 - 5.95 = 55.28$
13. $19 + 8.76 + 13.29 = 41.05$
14. $44.83 - 37.66 = 7.17$
15. $35.56 + 27.78 = 63.34$
16. $17.58 + 24.65 + 6.46 = 48.69$
17. $374.8 - 285.4 = 89.4$
18. $125.9 + 48.75 = 174.65$

Think. Answers will vary.

Page 19

1. $3.86 + 135.72 = 209.58$
 2. $9.6 - 3.75 = 5.85$
 3. $8.5 - 2.69 = 5.81$
 4. $68.37 + 164.78 = 233.15$
 5. 0.75 and 0.25
 6. 0.8 and -1.2
 7. 1.45 l
 8. 2.88 m
 9. 3.33 kg
 10. 57.05 km per hour
- Think. Possible answers: 48.15 + 16.56, 38.15 + 26.56, 28.15 + 36.56, 18.15 + 46.56

Page 20

1. 90
2. 22
3. 100
4. 180
5. 25%
6. 10%
7. 20%
8. 20%
9. 10%
10. 75%
11. 25%
12. 20%
13. £22.50
14. £18
15. 300 children, 540 women, 2160 men

Page 21

1. 195
2. 152
3. 2574
4. 75
5. 20%
6. 5%
7. 5%
8. 12.5%
9. 75%
10. 25%
11. 12.5%
12. 35%
13. £34.80
14. £304.30
15. £101
16. 6036

Page 22

1. 99
 2. 35
 3. 2
 4. 2
 5. 28
 6. 30
 7. $m = 3$
 8. $t = 8$
 9. $w = 8$
 10. $y = 4$
 11. $n = 9$
 12. $q = 6$
 13. $r = 15$
 14. $s = 36$
- Think. $m = 4$

Page 23

1. 22
 2. 66
 3. $86\cdot4$
 4. 3
 5. 12
 6. 1·1
 7. $d = 24$
 8. $a = 33$
 9. $k = 8$
 10. $h = 7$
 11. $m = 22$
 12. $c = 24$
 13. $w = 36$
 14. $t = 90$
- Think. $m = 4$.

Page 24

1. 97
 2. 98
 3. 132
 4. 11·5
 5. 2
 6. 1
 7. $m = 7$
 8. $j = 3$
 9. $t = 9$
 10. $s = 10$
 11. $n = 9$
 12. $w = 11$
 13. $q = 10$
 14. $y = 1$
 15. $(3\frac{1}{2} + 1\frac{1}{2}) \times 2 = 10$
- Think. $m = 9$

Page 25

1. $c = 10$
 2. $m = 3$
 3. $b = 3$
 4. $n = 17$
 5. $v = 2$
 6. $b = 2$
 7. $m = 7, n = 2$
 8. $p = 5, q = 15$
 9. $a = 6, b = 2$
 10. 5 cm
 11. 5 cm
 12. 11·5 cm
 13. 7 cm
 14. $e = 45^\circ$
 15. $f = 116^\circ$
- Think. $36^\circ, 36^\circ$ and 108°

Page 26

1. $c = 5$
2. $r = 9$
3. $b = 6$
4. $n = 4$
5. $v = 5$
6. $q = 1\cdot5$
7. $m = 4, n = 5$
8. $t = 3\cdot5, s = 2$
9. $p = 3, q = 7$
10. $w = 10, y = 1\cdot5$
11. $a = 1, b = 6$
12. 7 cm
13. 3 cm
14. 3·5 cm
15. 9·6 cm
16. 59°
17. 67°

Page 27

1. a) 7 m b) 4 m c) 14 m d) 12 m
e) 18 m f) 6 m
 2. a) 21 cm b) 43 cm c) 12 cm
d) 22 cm e) 18 cm f) 26 cm
- Think. Answers will vary, e.g.
Multiply by 10 and divide by 4 etc.

Page 28

1. a) 5·65 m b) 4·5 m c) 8·1 m
d) 5·1 m e) 6·1 m f) 4·05 m
2. 14·4 cm
3. 50·4 cm
4. 201·6 cm
5. 19·2 cm

Think. Answers will vary, such as
between 100 and 160.

Page 29

1. 624
2. 1088
3. £756
4. 1449 mm
5. 432 kg
6. 1554 m
7. £2430
8. 1596 l
9. £6688
10. 2808 cm
11. 672 m^2
12. 286 m^2
13. 600 m^2
14. 360 m^2

Think. $24 \times 31 = 744$

Page 30

1. 2528
2. 4410
3. 1125
4. 40 670
5. 56 448
6. 35 748
7. £59·12
8. £39·12
9. £715·05
10. £111·42
11. £29·85
12. £26·86
13. £32·84
14. £33·33

Page 31

1. 98·8 cm
2. 870 mm
3. 196·8 cm
4. 4992 mm
5. £99·71
6. £253·63
7. £462·32
8. The trainers (£131·90) cost
£4·34 more than the boots
(£127·56)

Think. $19\cdot91 \times 9 = 179\cdot19$,
 $29\cdot92 \times 9 = 269\cdot28$, $39\cdot93 \times 9$
 $= 359\cdot37$ (the first two digits and
the digits in the decimal places
increase by 9)

Page 32

1. 820·8
2. 615·4
3. 2714·8
4. 3383·8
5. 62·92
6. 44·94
7. 66·96
8. 556·8 cm
9. 455·4 km
10. 74·76 m

Page 33

1. 1171.2
2. 1529
3. 67.86
4. 191.82
5. 20 462.4
6. 10 724.4
7. 1495.11
8. 2568.28
9. £70.68, £141.36
10. 652.8 cm
11. 3707.2 m²
12. £85.74

Page 34

1. £5.41
2. 7761.6 m
3. 466.8 g
4. 7195.8 m²
5. £1473.12
6. 2921.4 cm
7. £51.68
8. £27 724.20

Page 35

1. a) $744 \div 6 = 124$
b) $74.4 \div 6 = 12.4$
c) $7.44 \div 6 = 1.24$
2. a) $528 \div 4 = 132$
b) $52.8 \div 4 = 13.2$
c) $5.28 \div 4 = 1.32$
3. a) $516 \div 3 = 172$
b) $51.6 \div 3 = 17.2$
c) $5.16 \div 3 = 1.72$
4. a) $963 \div 9 = 107$
b) $96.3 \div 9 = 10.7$
c) $9.63 \div 9 = 1.07$
5. a) $966 \div 7 = 138$
b) $96.6 \div 7 = 13.8$
c) $9.66 \div 7 = 1.38$
6. a) $1144 \div 8 = 143$
b) $114.4 \div 8 = 14.3$
c) $11.44 \div 8 = 1.43$
7. £92.50
8. £63.25
9. £72.50

Think. Answers will vary.

Page 36

1. £10.80
2. £9.60
3. £12.80
4. £14.60
5. 36.3
6. £52.60
7. £44.60
8. 138 kg

9. 22.5 cm
 10. 53.2
 11. 26.3 m
 12. 287.2 km
 13. 126
 14. 77.9 l
- Think. No. It is greater.

Page 37

1. £22.50
 2. £8.40
 3. £36.70
 4. £14.60
 5. £21.36, £3.64
 6. £69.25, £6
 7. £112.75
- Think. Smaller.

Page 38

1. $3699 \div 24 = 154 \text{ r}3$
 2. $6742 \div 31 = 217 \text{ r}15$
 3. $4678 \div 23 = 203 \text{ r}9$
 4. $4578 \div 32 = 143 \text{ r}2$
 5. $2465 \div 22 = 112 \text{ r}1$
 6. $6487 \div 31 = 209 \text{ r}8$
 7. $5876 \div 23 = 255 \text{ r}11$
 8. $8764 \div 26 = 337 \text{ r}2$
 9. $4445 \div 22 = 202 \text{ r}1$
 10. 155
 11. 146
 12. 67
- Think. False.

Page 39

1. $2563 \div 33 = 77 \text{ r}22$
2. $5783 \div 27 = 214 \text{ r}5$
3. $5353 \div 34 = 157 \text{ r}15$
4. $6463 \div 42 = 153 \text{ r}37$
5. $2856 \div 33 = 86 \text{ r}18$
6. $7253 \div 24 = 302 \text{ r}5$
7. $6234 \div 42 = 148 \text{ r}18$
8. $7426 \div 26 = 285 \text{ r}16$
9. $3068 \div 27 = 113 \text{ r}17$
10. $9321 \div 33 = 282 \text{ r}15$
11. $4024 \div 27 = 149 \text{ r}1$
12. $7255 \div 24 = 302 \text{ r}7$
13. $6666 \div 34 = 196 \text{ r}2$
14. $2652 \div 27 = 98 \text{ r}6$
15. $9678 \div 42 = 230 \text{ r}18$
16. 150
17. 69
18. 41
19. 140

Think. Answers may vary, e.g. 7 or 107.

Page 40

1. 16, 32, 48, 64, 80, 96, 112, 128, 144, 160.
2. Answers will vary.
3. Answers will vary.
4. Answers will vary.
5. Answers will vary, e.g. answers end in .0 (whole numbers), .25, .5 or .75.
6. Answers will vary, e.g. other decimal solutions occur.

Page 41

1. $426 \div 12 = 35 \frac{1}{2} = 35.5$
 2. $867 \div 24 = 36 \frac{1}{8} = 36.125$
 3. $729 \div 12 = 60 \frac{3}{4} = 60.75$
 4. $531 \div 24 = 22 \frac{1}{8} = 22.125$
 5. $426 \div 24 = 17 \frac{3}{4} = 17.75$
 6. $531 \div 15 = 35 \frac{2}{5} = 35.4$
 7. $426 \div 15 = 28 \frac{2}{5} = 28.4$
 8. $867 \div 12 = 72 \frac{1}{4} = 72.25$
 9. $729 \div 24 = 30 \frac{3}{8} = 30.375$
 10. $531 \div 12 = 44 \frac{1}{4} = 44.25$
 11. $729 \div 18 = 40 \frac{1}{2} = 40.5$
 12. $531 \div 18 = 29 \frac{1}{2} = 29.5$
 13. $426 \div 18 = 23 \frac{2}{3} = 23.66$
 14. $867 \div 15 = 57 \frac{4}{5} = 57.8$
 15. $729 \div 15 = 48 \frac{3}{5} = 48.6$
 16. £27.25
 17. £25.50
 18. 24.4 m
- Think. £13.25

Page 42

1. (5, 2)
 2. (6, 1)
 3. (1, -3)
 4. (-6, 1)
 5. (3, -3)
 6. (-3, -4)
- Think. Answers will vary.

Page 43

1. $4 \frac{2}{5}$
 2. $1 \frac{1}{2}$
 3. $1 \frac{1}{15}$
 4. $\frac{19}{20}$
 5. $1 \frac{1}{6}$
 6. $\frac{5}{24}$
 7. $\frac{7}{30}$
 8. $\frac{5}{9}$
 9. $1 \frac{1}{20}$
 10. $\frac{31}{45}$
- Think. $1 \frac{1}{5}$ or 1.2

Page 44

1. $1\frac{1}{4}$
2. $1\frac{1}{6}$
3. $3\frac{2}{3}$
4. 2
5. $1\frac{3}{5}$
6. $1\frac{3}{7}$
7. $3\frac{3}{4}$
8. $5\frac{5}{9}$
9. $1\frac{1}{4}$
10. $1\frac{1}{6}$
11. $1\frac{1}{8}$
12. $1\frac{1}{6}$
13. $1\frac{1}{9}$
14. $1\frac{1}{12}$
15. $1\frac{1}{8}$
16. $1\frac{1}{12}$
17. $1\frac{1}{16}$

Think. Answers will vary.

Page 45

1. 2
2. $1\frac{1}{12}$
3. $5\frac{1}{2}$
4. $1\frac{1}{18}$
5. $5\frac{1}{2}$
6. $4\frac{4}{5}$
7. $1\frac{1}{24}$
8. $1\frac{7}{8}$
9. $1\frac{1}{12}$
10. $1\frac{1}{9}$
11. $1\frac{1}{3}, 1\frac{1}{4}$
12. $3\frac{3}{8}, 1\frac{1}{4}$
13. $2\frac{2}{9}$
14. $1\frac{1}{12}$
15. $4\frac{4}{27}$
16. $3\frac{3}{16}$
17. $3\frac{3}{20}$
18. $4\frac{4}{15}$
19. $3\frac{3}{16}$
20. $7\frac{7}{24}$
21. $2\frac{2}{21}$

Think. Answers will vary, e.g. 12, 24.

Page 46

1. $2\frac{1}{3}$
2. $1\frac{1}{35}$
3. $1\frac{4}{7}$
4. $1\frac{1}{36}$
5. $7\frac{1}{2}$
6. $7\frac{4}{9}$
7. $1\frac{1}{56}$
8. $5\frac{1}{4}$

9. $1\frac{1}{45}$
10. $1\frac{1}{21}$
11. $3\frac{3}{20}$
12. $8\frac{8}{15}$
13. $4\frac{4}{21}$
14. $5\frac{5}{9}$
15. $12\frac{12}{25}$
16. $1\frac{1}{6}$
17. $18\frac{18}{35}$
18. $7\frac{7}{12}$
19. $10\frac{10}{21}$

Think. $1\frac{1}{4}, 1\frac{1}{9}, 1\frac{1}{16}, 1\frac{1}{25}$, smaller.

Page 47

1. 4
2. 15
3. 15
4. 600 g flour, 400 g butter, 200 g sugar
5. 450 g flour, 300 g butter, 150 g sugar
6. 600 g butter, 300 g sugar
7. 750 g flour, 500 g butter, 250 g sugar
8. 30 raspberries and 200 ml apple juice.

Think. Answers will vary, e.g. 4 to 8 or 1 : 2, 600 ml etc.

Page 48

1. £6
 2. 500 g
 3. 300 g
 4. £8.40
 5. £4.20
 6. £2.10
 7. 120 g
 8. 180 g, 6 slices
 9. 1500 g oats, 600 g butter
- Think. 225 g flour and 75 g fat.

Page 49

1. 400 ml
2. 1.5 kg
3. 48 kg
4. 450 ml
5. 1.2 kg
6. 1200 g
7. 2.5 l
8. 750 ml
9. 3200 g or 3.2 kg
10. a) 600 ml, b) 150 ml
11. Answers will vary.

Page 50

1. 220 ml
2. 20 ml
3. 83 mm
4. 29 mm
5. 750 ml
6. 550 g
7. 450 g
8. 350 g
9. 350 ml
10. 1450 ml or 1.45 l

Page 51

1. $w = 40^\circ$
2. $x = 40^\circ$
3. $y = 60^\circ$
4. $z = 10^\circ$
5. 30 cm^2
6. 27 cm^2

Think. Yes. Explanations will vary.

Page 52

1. $a = 85^\circ$
2. $x = 70^\circ, y = 80^\circ$
3. $m = 120^\circ, n = 60^\circ$
4. $z = 100^\circ$
5. perimeter = 26 cm, area = 36 cm^2
6. perimeter = 36 cm, area = 30 cm^2
7. perimeter = 38 cm, area = 72 cm^2
8. perimeter = 32 cm, area = 63 cm^2

Think. Answers will vary.

Page 53

1. $a = 75^\circ$
 2. $x = 40^\circ$
 3. $m = 120^\circ, n = 60^\circ$
 4. $a = 150^\circ$
 5. $x = 90^\circ$
 6. $a = 108^\circ$
 7. $t = 120^\circ$
 8. $m = 60^\circ$
 9. $x = 100^\circ$
 10. $y = 60^\circ$
- Think. $90^\circ, 180^\circ, 90^\circ$

Page 54

1. $a = 15^\circ$
2. $b = 47^\circ$, $c = 133^\circ$
3. $d = 146^\circ$
4. $e = 57^\circ$, $f = 123^\circ$
5. $g = 52^\circ$
6. $h = 157^\circ$
7. $i = 246^\circ$
8. $j = 58^\circ$
9. $k = 78^\circ$
10. $l = 138^\circ$

Think. 60° , 30° , 90°

Page 55

1. $a = 45^\circ$
2. $b = 69^\circ$, $c = 111^\circ$
3. $d = 99^\circ$
4. $e = 289^\circ$
5. $f = 58^\circ$
6. $g = 15^\circ$
7. $h = 246^\circ$
8. $i = 36^\circ$, $j = 54^\circ$
9. $k = 75^\circ$
10. $l = 139^\circ$

Think. 36° , 72° , 108° , 144°

Page 56

1. area = 54 cm^2 ,
perimeter = 30 cm
2. area = 40.5 cm^2 ,
perimeter = 27 cm
3. area = 81 cm^2 ,
perimeter = 36 cm
4. area = 33 cm^2 ,
perimeter = 28 cm
5. area = 48 cm^2 ,
perimeter = 42 cm
6. area = 24 cm^2 ,
perimeter = 22 cm
7. area = 12 cm^2 ,
perimeter = 16 cm
8. area = 6 cm^2 ,
perimeter = 12 cm
9. area = 48 cm^2 ,
perimeter = 31 cm

Think. Answers will vary.

Page 57

1. area = 14 cm^2 ,
perimeter = 17.9 cm
2. area = 27 cm^2 ,
perimeter = 25.8 cm

3. area = 13.5 cm^2 ,
perimeter = 21.4 cm
 4. area = 30 cm^2 ,
perimeter = 30 cm
 5. area = 33.6 cm^2 ,
perimeter = 26.2 cm
 6. area = 16 cm^2 ,
perimeter = 24.6 cm
 7. volume = 84 cm^3
 8. volume = 648 cm^3
 9. volume = 264 cm^3
 10. volume = 288 cm^3
- Think. 238 cm^3 , 192 cm^3

Page 58

1. 10:50
 2. 16:45
 3. 4:28 or twenty-eight minutes past four
 4. 7:05 or five past seven
 5. 25 minutes
 6. 1 hour 20 minutes
- Think. 3

Page 59

1. 8:25 pm
 2. 12:03
 3. £20, £15
 4. 4 hours 10 minutes
 5. 11:45
 6. Aston, 3:20 pm
- Think. 3:05

Page 60

1. 45 minutes
 2. Three minutes to eight in the evening
 3. Thirteen minutes past four in the afternoon
 4. 10:46
- Think. I am to 9 am

Page 61

1. 525
2. 150
3. 375
4. 1700
5. -2°C
6. 16°C
7. 09:30
8. 1°C and 10°C

Page 62

1. 17
2. 2, Didcot Athletic and Southall City
3. 5
4. 60
5. 9 am
6. 3500 m
7. 2700 m
8. 1000 m; answers will vary, e.g. the climb gets steeper

Page 63

1. 25
2. No, 20 Year 6 and 15 Year 2 like reading
3. Yes, 10 children in each year like to play sports
4. 15
5. 20 kg
6. 50 kg
7. Approximately 560 kg
8. $1\frac{1}{2}$ stone
9. 6 stone
10. 40 stone

Page 64

1. Answers will vary.
2. £5242.88 and £2000
3. Answers will vary.
4. The first deal.
5. £127 500

Page 65

Questions should be answered using Brahmagupta's method

1. 16 214
2. 14 518
3. 6372
4. 14 924
5. 86 508
6. 148 192
7. 90 480
8. 93 272

Page 66

Questions should be answered using Napier's bones method

1. 19 470
 2. 8920
 3. 37 856
 4. 268 852
 5. 314 586
 6. 218 246
 7. 110 624
 8. 101 160
 9. 46 257
 10. 771 432
 11. 584 192
 12. 1 038 106
 13. Answers will vary.
- Think. II 106, III 105, I III 104, II III 103

Page 67

Questions should be answered using lattice method

1. 322
 2. 1012
 3. 918
 4. 884
 5. 1836
 6. 2365
 7. 2146
 8. 1332
 9. 3102
 10. 6052
 11. £8.68
 12. 1032 hours
- Think. Answers will vary.

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Questions should be answered using lattice method

1. 12 298
 2. 17 073
 3. 22 780
 4. 12 997
 5. 9438
 6. 27 426
 7. 43 788
 8. 69 300
 9. 6264
 10. 36 652
 11. 8760 hours
 12. 328
- Think. Answers will vary.

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The first four questions should each be answered using Brahmagupta's method, Napier's bones and the lattice method (so 12 worked problems in total)

1. $24 \times 326 = 7824$
2. $43 \times 627 = 26\ 961$
3. $4278 \times 14 = 59\ 892$
4. $6214 \times 28 = 173\ 992$
5. Answers will vary.
6. Answers will vary.
7. Answers will vary.
8. Answers will vary.
9. Answers will vary.

Page 70

1. 7
 2. 10
 3. 22
 4. 25
- Think. Q5, Q8, Q9 and Q10 will be odd.
5. 5
 6. 12
 7. 26
 8. 21
 9. 31
 10. 33
 11. 1000
 12. 100
 13. 1100
 14. Answers will vary.

Page 71

1.

6	3	3
5		3
1	5	6
2.

1	3	6
7		4
2	8	0
3.

8	4	3
2		10
5	8	2
4.

0	12	1
8		4
5	0	8

 or

1	11	1
7		4
5	0	8

 or

2	10	1
6		4
5	0	8

 or

3	9	1
5		4
5	0	8

 or

4	8	1
4		4
5	0	8

 or

5	7	1
3		4
5	0	8

 or

6	6	1
2		4
5	0	8

 or

7	5	1
1		4
5	0	8

 or

8	4	1
0		4
5	0	8
5. Answers will vary.

Page 72

1.

4	3	8
9	5	1
2	7	6

2.

4	9	2
3	5	7
8	1	6

3.

2	7	6
9	5	1
4	3	8

4.

8	1	6
3	5	7
4	9	2

5. Answers will vary.

Page 73

- $1 \times 9 = 9$
- $2 \times 9 = 18$
- $3 \times 9 = 27$
- $4 \times 9 = 36$
- $5 \times 9 = 45$
- $6 \times 9 = 54$
- $7 \times 9 = 63$
- $8 \times 9 = 72$
- $9 \times 9 = 81$
- $10 \times 9 = 90$
- $11 \times 9 = 99$
- $12 \times 9 = 108$
- A = 2
- B = 8
- C = 3
- D = 5
- E = 1
- F = 9
- G = 4
- H = 7
- I = 6
- J = 0
- $6 \times 2 = 12$
- $2 \times 2 = 4$
- $3 \times 2 = 6$
- $10 \times 2 = 20$
- $7 \times 2 = 14$
- $11 \times 2 = 22$
- $5 \times 2 = 10$
- $8 \times 2 = 16$
- $9 \times 2 = 18$ (textbook should read $F \times A = \mathbf{EB}$)

- $4 \times 2 = 8$
- $1 \times 2 = 2$
- $12 \times 2 = 24$
- $6 \times 3 = 18$
- $2 \times 3 = 6$
- $5 \times 3 = 15$
- $8 \times 3 = 24$
- $3 \times 3 = 9$
- $10 \times 3 = 30$
- $7 \times 3 = 21$
- $4 \times 3 = 12$
- $11 \times 3 = 33$
- $1 \times 3 = 3$
- $9 \times 3 = 27$
- $12 \times 3 = 36$
- $6 \times 6 = 36$
- $2 \times 6 = 12$
- $3 \times 6 = 18$
- $5 \times 6 = 30$
- $4 \times 6 = 24$
- $1 \times 6 = 6$
- $10 \times 6 = 60$
- $8 \times 6 = 48$
- $9 \times 6 = 54$
- $7 \times 6 = 42$
- $12 \times 6 = 72$
- $11 \times 6 = 66$

Think.

$E \times D = D$
 $A \times D = EJ$
 $C \times D = ED$
 $G \times D = AJ$
 $D \times D = AD$
 $I \times D = CJ$
 $H \times D = CD$
 $B \times D = GJ$
 $F \times D = GD$
 $EJ \times D = DJ$
 $EE \times D = DD$
 $EA \times D = IJ$

Other answers will vary.

Page 74

- 73, 118, 191
- 47, 76, 123
- 42, 68, 110
- 81, 131, 212
- 3, 5, 8
- 15, 21, 28, 36, 45, 55
- Answers will vary.

Page 75

- £4.29
- 304
- a) 15 b) 40%
- Julia pays 46p more

Page 76

- 3752
- 47p
- a) 0.478 kg b) 12
- a) 7 cm b) 5 cm

Page 77

- $12 \times \frac{1}{6} = 2$
- $265 \times 10 = 2650$
- $2.7 \times 100 = 270$
- $11 \times \frac{1}{2} = 5 \frac{1}{2}$
- $872 \times 100 = 87\,200$
- $0.14 \times 100 = 14$
- $\frac{1}{5} \div 2 = \frac{1}{10}$
- $\frac{1}{6} \div 3 = \frac{1}{18}$
- $729 \div 12 = 60 \frac{3}{4}$
- $426 \div 18 = 23 \frac{2}{3}$
- $729 \div 24 = 30 \frac{3}{8}$
- $4678 \div 23 = 203 \frac{9}{23}$
- $3.77 \times 18 = 67.86$
- $8.34 \times 23 = 191.82$
- $£36 \times 21 = £756$
- $23 \times 63 \text{ mm} = 1449 \text{ mm}$
- $319\,577 + 28\,846 = 348\,423$
- $24 \times \frac{1}{5} = 4 \frac{4}{5}$
- $26\,150 \div 100 = 261.5$
- $\frac{1}{10} \text{ of } 7 = \frac{7}{10}$
- $15 \times \frac{1}{8} = 1 \frac{7}{8}$
- $24 \times 18 \text{ kg} = 432 \text{ kg}$
- $13\,700 \div 1000 = 13.7$
- $\frac{1}{8} \div 3 = \frac{1}{24}$
- $78 \times 36 \text{ cm} = 2808 \text{ cm}$
- $867 \div 12 = 72.25$
- $531 \div 24 = 22 \frac{1}{8}$
- $867 \div 15 = 57 \frac{4}{5}$
- $6487 \div 31 = 209 \text{ r}8$
- $78.69 \times 19 = 1495.11$
- $98.78 \times 26 = 2568.28$
- $38 \times 42 \text{ l} = 1596 \text{ l}$
- $£76 \times 88 = £6688$
- $50\,020 - 19\,509 = 30\,511$

Page 78

1. CARTRIDGE
2. ADDITION
3. ANTELOPE

Page 79

4. first $\frac{2}{5}$ of BADGE, first $\frac{2}{3}$ of SKI; middle $\frac{2}{4}$ of NETS; last $\frac{1}{4}$ of LAMB; last $\frac{3}{5}$ of SHALL : BASKETBALL
5. first 40% of BADGE, first 40% of SKI; middle 50% of NETS; last 25% of LAMB; last 60% of SHALL
6. first $\frac{3}{12}$ (25%) of CATERPILLARS; last $\frac{1}{3}$ of CATNAP; first $\frac{3}{8}$ of ULTIMATE : CATAPULT
7. first $\frac{1}{12}$ of MATHEMATICAL; last 50% of ACCIDENTAL; last $\frac{2}{7}$ of QUICKLY: MENTALLY
8. No $\frac{5}{7}$ of TRACTOR is 71.42...%
9. Answers will vary.
10. Answers will vary.