

Page 4

1. 7293
2. 8947
3. 6502
4. 2067
5. 3480
6. $7521 > 3860$
7. $8353 > 3699$
8. $9442 < 9852$
9. $4725 > 4572$
10. $8244 < 9241$
11. $3026 < 3211$
12. A number between 2010 and 4800
13. A number between 1600 and 2000
14. A number between 5650 and 6820
15. A number between 4356 and 5073

Think. Answers will vary but the two 4-digit numbers should have the digits 2, 4, 0 and 5 with 5 in the ten column.

Page 5

1. 7003
2. 4044
3. 3658
4. 5060
5. 6502
6. $3262 > 1284$
7. $4323 < 4723$
8. $2010 > 1999$
9. $2479 < 2749$
10. $3524 < 3546$
11. $6676 > 6667$
12. A number between 2050 and 2500
13. A number between 3678 and 4252
14. A number between 8675 and 9200
15. A number between 1999 and 2020
16. A number between 4980 and 5126
17. A number between 5005 and 5305

Think. Answers will vary but some examples are: 2467, 7642, 4267, 2476

Page 6

1. 2802
2. 5055
3. 9009
4. 7616
5. 8011
6. 2012, 2854, 3045
7. 5015, 5105, 5510
8. 4687, 4786, 4876
9. Two numbers between 1645 and 1924
10. Two numbers between 5445 and 5545
11. Two numbers between 2884 and 2999
12. Two numbers between 6950 and 7000
13. Two numbers between 9002 and 9200
14. Two numbers between 3811 and 3856

Think. Answers will use only 1s and 5s to make three sequentially large numbers. Example: 1111 < 1115 < 1155

Page 7

1. 1200, 2100, 2300, 3200
2. 2300, 3200, 3400, 4300
3. 5800, 6700, 6900, 7800
4. 4600, 5500, 5700, 6600
5. $4269 + 100 = 4369$, $4269 + 1000 = 5269$
6. $5099 + 100 = 5199$, $5099 + 1000 = 6099$
7. $4269 - 100 = 4169$, $4269 - 1000 = 3269$
8. $5099 - 100 = 4999$, $5099 - 1000 = 4099$

Think. No. The tens and units digits would remain 34.

Page 8

1. Twenty thousand
Twenty-three thousand
Twenty-three thousand, one hundred
2. Sixty-thousand
Sixty-seven thousand
Sixty-seven thousand, five hundred
3. $43\ 000 < 52\ 000$
4. $76\ 000 > 24\ 000$
5. $34\ 000 < 38\ 000$
6. $25\ 200 < 25\ 600$

7. A number between 20 000 and 40 000
8. A number between 40 000 and 60 000
9. A number between 70 000 and 80 000
10. A number between 80 000 and 90 000

Think. 10 000, 99 999

Page 9

1. 28 500
2. 34 350
3. 68 725
4. 40 452
5. 13 986
6. $65\ 320 > 39\ 463$
7. $82\ 700 > 55\ 460$
8. $70\ 999 < 80\ 010$
9. $73\ 000 < 73\ 200$
10. $18\ 630 > 13\ 810$
11. $33\ 009 < 33\ 900$
12. A number between 10 000 and 11 000
13. A number between 34 280 and 32 540
14. A number between 15 469 and 15 800
15. A number between 73 758 and 73 911
16. A number between 65 000 and 66 202
17. A number between 80 100 and 80 500

Think. Any 5-digit numbers made with the digits 4, 2, 7, 3 and 5 starting with 4.

Page 10

1. -2, 3, 4
2. -7, 2, 7
3. -5, 0, 1
4. -3, 2, 5
5. -1, 4, 12
6. -9, 3, 10
7. -3, 6, 8
8. -1, 0, 1
9. -8, -6, 5
10. 2 °C
11. 8 °C
12. 2 °C
13. 10 °C

Think. Pairs of temperatures with a difference of 8 degrees.

Page 11

1. -16, -4, 1, 5, 12
2. -4, -1, 0, 1, 6
3. -12, -6, 1, 3, 4
4. -14, -7, 2, 8, 14
5. -10, -1, 4, 7, 9
6. -10, -9, 2, 3, 8
7. -9, -3, 2, 4, 6
8. -3, -1, 2, 7, 9
9. -7, -4, -3, -2, -1
10. -12, -9, -2, 11, 15
11. 18 degrees
12. 8 degrees
13. 16 degrees
14. -11 °C
15. -9 °C
16. 15 degrees

Think. Two temperatures below zero with a difference of 7 degrees.

Page 12

1. £152
2. £190
3. £17
4. £38
5. £80
6. -£85
7. -£32
8. -£10

Think. £40

Page 13

1. $2.4 < 4.2$
2. $1.4 > 1.2$
3. $3.6 < 3.9$
4. $3.24 < 3.98$
5. $4.72 > 4.54$
6. $6.23 < 6.64$
7. 3.1, 3.4, 3.7
8. 2.7, 7.2, 7.7
9. 3.53, 3.56, 3.65
10. 4.01, 4.09, 4.81
11. $6.3 + 0.7 = 7$
12. $3.4 + 0.6 = 4$
13. $8.1 + 0.9 = 9$
14. $4.4 + 0.6 = 5$
15. $7.7 + 0.3 = 8$
16. $9.2 + 0.8 = 10$

Think. Answers will have a difference of 1.

Page 14

1. 3.4, 3.5, 3.9
2. 2.2, 6, 6.2
3. 0.4, 0.7, 1.4
4. 3.64, 4.36, 6.43
5. 7.02, 7.25, 7.89
6. 5.61, 5.99, 6.01
7. 8.49, 8.84, 9.01
8. 2.73, 2.77, 2.80
9. 7.34
10. 4.6
11. 9.78

Think. Answers will vary but each number will have 2 units and 0 tenths. Example: 2.07

Page 15

1. 0.1, 0.5, 0.8
2. 1.2, 1.6, 1.9
3. 8.3, 8.7, 8.8
4. 25.3, 25.6, 25.9
5. $0.7 + 0.3 = 1$
6. $0.6 + 0.4 = 1$
7. $0.5 + 0.5 = 1$
8. $3.6 + 0.4 = 4$
9. $5.2 + 0.8 = 6$
10. $7.3 + 0.7 = 8$

Think. 3.0 and 4.0

Page 16

1. 0.6, 1.3, 1.9
2. 6.4, 6.9, 7.8
3. 0.14, 0.58, 0.75
4. 8.44, 8.65, 8.82
5. $13.7 + 0.3 = 14$
6. $9.2 + 0.8 = 10$
7. $34.5 + 0.5 = 35$
8. $23.6 + 0.4 = 24$
9. $12.8 + 0.2 = 13$
10. $47.6 + 0.4 = 48$

Think. 4, 5 and 6

Page 17

1. 8.3, 8.9, 9.5
2. 4.3, 4.5, 4.9
3. 0.36, 0.68, 0.91
4. 26.28, 26.75, 26.91
5. 34.25, 34.39, 34.77
6. $21.45 + 0.55 = 22$
7. $63.84 + 0.16 = 64$
8. $87.32 + 0.68 = 88$
9. $56.27 + 0.73 = 57$

Think. 9, 99

Page 18

1. 0.4, 0.5, 0.6, 0.7
2. 4.4, 4.5, 4.6, 4.7
3. 6.6, 6.7, 6.8, 6.9
4. 7.5, 7.6, 7.7, 7.8
5. 1.8, 1.9, 2.0, 2.1
6. 9.4, 9.3, 9.2, 9.1
7. 8.5, 8.4, 8.3, 8.2
8. 5.6, 5.5, 5.4, 5.3
9. 4.3
10. 5.4
11. 7.6
12. 0.4

Think. 19 of them: 0.9, 1.9, 2.9, 3.9, 4.9, 5.9, 6.9, 7.9, 8.9, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9

Page 19

1. 3.9, 4.0, 4.1, 4.2
2. 6.1, 6.0, 5.9, 5.8
3. 9.7, 9.8, 9.9, 10.0
4. 11.2, 11.1, 11.0, 10.9
5. 7.9, 8.0, 8.1, 8.2
6. 10.9, 11.0, 11.1, 11.2
7. 0.14, 0.15, 0.16, 0.17
8. 4.26, 4.27, 4.28, 4.29
9. A decimal between 6.3 and 6.8
10. A decimal between 8.8 and 9.3
11. A decimal between 11.45 and 11.62
12. A decimal between 25.34 and 25.43

Think. 2 of them: 0.9, 1.9.

38 of them: 0.09, 0.19, 0.29, 0.39, 0.49, 0.59, 0.69, 0.79, 0.89, 0.90, 0.91, 0.92, 0.93, 0.94, 0.95, 0.96, 0.97, 0.98, 0.99, 1.09, 1.19, 1.29, 1.39, 1.49, 1.59, 1.69, 1.79, 1.89, 1.90, 1.91, 1.92, 1.93, 1.94, 1.95, 1.96, 1.97, 1.98, 1.99

Page 20

1. 4
 2. 6
 3. 14
 4. 28
 5. 9
 6. 17
 7. 12
 8. 1
 9. 32
 10. 23
 11. 2·3, 3·6, 6·3
 12. 16·8, 18·1, 18·6
 13. 1·1, 1·7, 1·9
 14. 9·9, 10·2, 10·9
 15. 3·8, 5·8, 9·3
 16. 21·7, 22·2, 22·7
 17. A 1-decimal place number between 13·6 and 15
 18. A 1-decimal place number between 34·8 and 35·8
 19. A 1-decimal place number between 27·1 and 27·9
 20. 54·5, 54·6 or 54·7
 21. 81·2, 81·3, 81·4 or 81·5
 22. A 1-decimal place number between 12·2 and 22·2
- Think. Seven 1-decimal place numbers that round to 10, e.g. 9·5, 9·6, 9·7... 10·4; -0·4, -0·3, -0·2, -0·1, 0·0, 0·1, 0·2, 0·3 and 0·4 round to 0

Page 21

1. 64
 2. 83
 3. 19
 4. 44
 5. 15
 6. 40
 7. 63
 8. 1
 9. A decimal between 13 and 14
 10. A decimal between 21·2 and 22
 11. A decimal between 54·1 and 54·5
 12. A decimal between 72·3 and 73
 13. A decimal between 11·1 and 11·6
 14. A decimal between 12·1 and 13
 15. 5 m
 16. 9 bags
 17. 25 cm
- Think. 10 1-place decimals round to 7. Yes, yes, yes.

Page 22

1. 30
 2. 17
 3. 11
 4. 65
 5. 38
 6. 8
 7. 13
 8. 90
 9. 75
 10. 43
 11. A 2-place decimal between 10·1 and 10·2
 12. A 2-place decimal between 72·6 and 74·1
 13. A 2-place decimal between 63·8 and 64
 14. A 2-place decimal between 92·2 and 92·4
 15. A 2-place decimal between 12·7 and 13
 16. A 2-place decimal between 54·5 and 54·9
 17. 25 m
 18. 25·45 kg
 19. 15·15 m
- Think. 100 2-place decimals (from 6·50 up to 7·49) round to 7. Yes, yes, yes.

Page 23

1. $4 \times 10 = 40$, $4 \times 1 = 4$, $4 \times 11 = 44$
 2. $8 \times 10 = 80$, $8 \times 1 = 8$, $8 \times 11 = 88$
 3. $11 \times 10 = 110$, $11 \times 1 = 11$, $11 \times 11 = 121$
 4. $3 \times 10 = 30$, $3 \times 2 = 6$, $3 \times 12 = 36$
 5. $7 \times 10 = 70$, $7 \times 2 = 14$, $7 \times 12 = 84$
 6. $6 \times 10 = 60$, $6 \times 2 = 12$, $6 \times 12 = 72$
 7. $9 \times 10 = 90$, $9 \times 2 = 18$, $9 \times 12 = 108$
 8. $12 \times 10 = 120$, $12 \times 2 = 24$, $12 \times 12 = 144$
- Think. Answers will vary, but some examples are: $77 \div 11 = 7$; $24 \div 12 = 2$

Page 24

1. $3 \times 11 = 33$
2. $6 \times 11 = 66$
3. $12 \times 11 = 132$
4. $5 \times 11 = 55$
5. $11 \times 11 = 121$
6. $9 \times 11 = 99$
7. $2 \times 11 = 22$
8. $10 \times 11 = 110$
9. $77 \div 11 = 7$
10. $121 \div 11 = 11$

11. $44 \div 11 = 4$
12. $132 \div 11 = 12$
13. $88 \div 11 = 8$
14. $11 \div 11 = 1$
15. $4 \times 12 = 48$
16. $12 \times 12 = 144$
17. $6 \times 12 = 72$
18. $8 \times 12 = 96$
19. $9 \times 12 = 108$
20. $11 \times 12 = 132$
21. $2 \times 12 = 24$
22. $7 \times 12 = 84$
23. $3 \times 12 = 36$
24. $108 \div 12 = 9$
25. $144 \div 12 = 12$
26. $72 \div 12 = 6$
27. $96 \div 12 = 8$
28. $60 \div 12 = 5$
29. $36 \div 12 = 3$

Think. The units digits are 2, 4, 6, 8, 0, ... which is also the 2-times table.

Page 25

1. $3 \times 36 = 108$
2. $99 \times 2 = 198$
3. $23 \times 4 = 92$
4. $16 \times 8 = 128$
5. $7 \times 52 = 364$
6. $6 \times 52 = 312$
7. $6 \times 24 = 144$
8. $3 \times 201 = 603$
9. $2 \times 299 = 598$
10. $125 \times 4 = 500$
11. $5 \times 120 = 600$
12. $705 \times 6 = 4230$

Think. Answers will vary but should show a coherent and efficient method.

Page 26

1. Possible answers are:
2. $3 \times 34 = 102$
3. $3 \times 64 = 192$
4. $3 \times 299 = 897$
5. $4 \times 48 = 192$
6. $4 \times 64 = 256$
7. $5 \times 34 = 170$
8. $5 \times 48 = 240$
9. $5 \times 64 = 320$
10. $6 \times 25 = 150$
11. $6 \times 34 = 204$
12. $6 \times 402 = 2412$
13. $7 \times 48 = 336$
14. $8 \times 402 = 3216$

Think. Three 2 digit X 1 digit calculations with the same answer

Page 27

1. $243 \times 4 = 972$
2. $3 \times 420 = 1260$
3. $5 \times 639 = 3195$
4. $4 \times 827 = 3308$
5. $3 \times 406 = 1218$
6. $9 \times 134 = 1206$
7. $312 \times 6 = 1872$
8. $498 \times 8 = 3984$
9. $6 \times 501 = 3006$
10. $8 \times 202 = 1616$
11. $5 \times 734 = 3670$
12. $7 \times 342 = 2394$
13. 1095
14. £2312

Think. Answers will vary, but an example is: $6 \times 501 = 3006$

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1. $624 \times 6 = 3744$
2. $4 \times 808 = 3232$
3. $8 \times 234 = 1872$
4. $967 \times 7 = 6769$
5. $203 \times 8 = 1624$
6. $7 \times 112 = 784$
7. £504
8. 1435
9. 1428
10. 1456

Think. $299 \times 6 = 1794$

Page 29

1. Outputs: 110, 175, 205, inputs: 15, 20
2. Outputs: 171, 243, inputs: 13, 14, 15
3. Outputs: 13, 15, inputs: 44, 72, 80

Think. One of the following:
 $120 \times 1 = 120$, $60 \times 2 = 120$,
 $40 \times 3 = 120$, $30 \times 4 = 120$,
 $24 \times 5 = 120$, $20 \times 6 = 120$,
 $15 \times 8 = 120$

Page 30

1. Outputs: 270, 402, 498, inputs: 14, 21
2. Outputs: 238, 476, 539, inputs: 15, 22
3. Outputs: 16, 22, 26, inputs: 152, 288

Think. $144 \times 1 = 144$, $48 \times 3 = 144$, or $16 \times 9 = 144$

Page 31

1. 12 cm^2
2. 20 cm^2

3. 16 cm^2
 4. 28 cm^2
 5. 14 cm^2
 6. 15 m^2
 7. 18 m^2
 8. 32 m^2
- Think. 14 cm

Page 32

1. 18 cm^2
2. 23 cm^2
3. 22 m^2
4. 32 m^2
5. 25 m^2
6. 21 m^2
7. 44 m^2

Think. Answers will vary but should all be rectangles with an area of 24 cm^2 : 1×24 , 2×12 , 3×8 , 4×6

Page 33

1. 15 cm^2 , 16 cm
2. 26 cm^2 , 22 cm
3. 28 cm^2 , 22 cm
4. 24 cm^2 , 22 cm
5. 30 cm^2 , 22 cm
6. 42 cm^2 , 26 cm
7. 24 cm^2 , 22 cm

Think. Answers will vary but both shapes should have an area of 12 cm^2 and different perimeters.

Page 34

1. 18 cm^2 , 22 cm
2. 36 cm^2 , 24 cm
3. 35 cm^2 , 24 cm
4. 36 cm^2 , 30 cm
5. 11 cm^2 , 20 cm
6. 30 cm^2 , 26 cm
7. 38 cm^2 , 30 cm

Think. Answers will vary but shapes must have the same area and different perimeters.

Page 35

1. Shapes a, e and g are scalene. Shapes b, c, d and h are isosceles. f is equilateral.
2. j is a kite, two pairs of equal, adjacent sides
3. k is a parallelogram two pairs of equal, opposite sides
4. l is a rectangle two pairs of equal, opposite sides, all right-angles
5. m is an irregular quadrilateral,

no sides or angles equal

6. n is a parallelogram two pairs of equal, opposite sides
7. o is a kite, two pairs of equal, adjacent sides
8. p is a rhombus, 4 equal sides, no right-angles

Think. Answers will vary but the hole should form an equilateral triangle.

Page 36

i.

	name	faces	vertices	edges
a	cube	6	8	12
b	cuboid	6	8	12
c	cone	2	1	1
d	cylinder	3	0	2
e	sphere	1	0	0
f	square-based pyramid	5	5	8
g	tetrahedron	4	4	6
h	triangular prism	5	6	9
i	hexagonal prism	8	12	18

Think. The net of a square-based pyramid.

Page 37

i.

Polyhedron	Faces	Vertices	Edges
Tetrahedron	4	4	6
Square-based pyramid	5	5	8
Cuboid	6	8	12
Triangular prism	5	6	9
Hexagonal prism	8	12	18
Hexagon-based pyramid	7	7	12

Euler's special number is always 2.

2. Tetrahedron or triangular-based pyramid
3. Cube or cuboid
4. True
5. False
6. True
7. False

Page 38

- 3 m 15 cm, 3·15 m, 3 m 25 cm, 3·25 m, 3 m 57 cm, 3·57 m, 3 m 71 cm, 3·71 m
- 7 m 10 cm, 7·10 m, 7 m 37 cm, 7·37 m, 7 m 50 cm, 7·5 m, 7 m 94 cm, 7·94 m
- 5 m 2 cm, 5·02 m, 5 m 25 cm, 5·25 m, 5 m 50 cm, 5·5 m, 5 m 87 cm, 5·87 m
- 9 m 9 cm, 9·09 m, 9 m 30 cm, 9·3 m, 9 m 69 cm, 9·69 m, 9 m 90 cm, 9·9 m

Think. Answers will be between 4 and 5, include 2 decimal places and be correctly ordered.

Page 39

- 2·34 m
- 2·4 m or 2·40 m
- 5·62 m
- 7·39 m
- 8·6 m or 8·60 m
- 4·11 m
- 1 m 60 cm
- 2 m 30 cm
- 5 m 50 cm
- 8 m 46 cm
- 6 m 72 cm
- 3 m 94 cm

13–16. 2·5 m, 2·85 m, 2·1 m and 2·61 m marked correctly on the number line.

Think. 2·45 m

Page 40

- 1·25 m, 1·34 m, 1·48 m
- 2·55 m, 3·16 m, 3·76 m
- 3·76 m, 3·77 m, 3·98 m
- 2·01 m, 2·19 m, 2·81 m,

Think. Animal should be between 0.5 and 0.6 m and be labelled in metres.

Page 41

- 3·58 m, 3·61 m, 3·65 m
- 3·98 m, 4·37 m, 4·42 m
- 4·64 m, 4·88 m, 4·92 m
- 5·15 m, 5·23 m, 5·31 m
- 3·76 m, 3·82 m, 3·99 m
- 5·24 m, 5·6 m, 5·79 m
- 4·1 m, 4·25 m, 4·39 m
- 3·43 m, 3·5 m, 3·58 m

Think. Answers will vary but may include the relative place value.

Page 42

- 2·55 km (Stonebury)
- 4·65 km (Shorely)
- 7·89 km (Hanborough)

- 5·82 km (Billingston)
- 8·01 km (Tonwell)
- 12·5 km (Jeddur)

Think. Number line showing 0·5 to 0·66 with all 1- and 2-place decimals marked. 0·58

Page 43

- Any fraction equivalent to $\frac{1}{2}$
- Any fraction equivalent to $\frac{1}{3}$
- Any fraction equivalent to $\frac{1}{4}$
- Any fraction equivalent to $\frac{2}{10}$
- Any fraction equivalent to $\frac{4}{6}$
- Any fraction equivalent to $\frac{6}{8}$
- $\frac{3}{5}$
- $\frac{3}{8}$
- $\frac{2}{3}$
- $\frac{5}{6}$
- $\frac{7}{10}$
- $\frac{1}{5}$

Think. Answers will vary. Three sets of three fractions with a total of 1.

Page 44

- $\frac{15}{100} = 0·15$
- $\frac{85}{100} = 0·85$
- $\frac{21}{100} = 0·21$
- $\frac{70}{100} = 0·7$
- $\frac{49}{100} = 0·49$
- $\frac{36}{100} = 0·36$
- $\frac{94}{100} = 0·94$
- $\frac{63}{100} = 0·63$
- $\frac{50}{100}$
- $\frac{25}{100}$
- $\frac{10}{100}$
- $\frac{75}{100}$
- $\frac{70}{100}$
- $\frac{30}{100}$

Think. Answers between 50 and 80 hundredths.

Page 45

- 2·2 m
- 1·4 m
- 3·15 m
- 2·35 m
- 2·1 m
- 3·12 m

Think. 20 cm, 40 cm

Page 46

- 1·1 m
- 4 m
- 2·6 m
- 2·15 m
- 2·5 m

- 5 m
 - 2·1 m
- Think. 75 cm

Page 47

- $38 + 45 = 83$, $338 + 45 = 383$, $3238 + 45 = 3283$
- $62 + 29 = 91$, $862 + 29 = 891$, $9562 + 29 = 9591$
- $54 + 37 = 91$, $654 + 37 = 691$, $8254 + 37 = 8291$
- $19 + 79 = 98$, $819 + 79 = 898$, $6319 + 79 = 6398$
- $45 + 48 = 93$, $745 + 48 = 793$, $7445 + 48 = 7493$
- $36 + 58 = 94$, $636 + 58 = 694$, $9036 + 58 = 9094$
- 292
- £651

Think. There are 56 possible answers, but A and C will add to make 8, e.g. 1 and 7, and B and D will have a total of 11, e.g. 12 + 79, 13 + 78, ... 22 + 69, ... etc.

Page 48

- $67 + 85 = 152$
- $114 + 87 = 201$
- $3045 + 76 = 3121$
- $846 + 46 = 892$
- $8417 + 66 = 8483$
- $374 + 81 = 455$
- $733 + 47 = 780$
- $8575 + 64 = 8639$
- $853 + 83 = 936$
- $7543 + 28 = 7571$
- $2649 + 74 = 2723$
- $758 + 67 = 825$
- £407
- 245

Think. There are 48 possible answers, but A and C will add to make 7, e.g. 1 and 6, and B and D will have a total of 11, e.g. 12 + 69, 13 + 68, ..., 22 + 59, ... etc.

Page 49

1. $400 - 348 = 52$
 2. $800 - 726 = 74$
 3. $500 - 427 = 73$
 4. $900 - 847 = 53$
 5. $200 - 119 = 81$
 6. $700 - 638 = 62$
 7. $900 - 678 = 222$
 8. $400 - 267 = 133$
 9. $506 - 336 = 170$
 10. $704 - 592 = 112$
 11. $5000 - 4823 = 177$
 12. $4000 - 3765 = 235$
- Think. 164, 170, 200

Page 50

1. $406 - 263 = 143$
2. $305 - 127 = 178$
3. $702 - 588 = 114$
4. $804 - 652 = 152$
5. $6000 - 5373 = 627$
6. $8004 - 7467 = 537$
7. $9003 - 8874 = 129$
8. $7006 - 6439 = 567$
9. $7005 - 3584 = 3421$
10. $6002 - 4826 = 1176$
11. $8007 - 2758 = 5249$
12. $9010 - 6337 = 2673$
13. £630
14. 238 m
15. 254

Think. Answers will vary but should be 3 hops, the first of 1 digit, the second a multiple of 10, and the third a multiple of 100. The number reached must be 1000.

Page 51

1. $36 \times 4 = 144$
2. $8 \times 24 = 192$
3. $52 \times 8 = 416$
4. $138 \div 6 = 23$
5. $184 \div 8 = 23$
6. $12 \times 24 = 288$
7. $48 \times 4 = 192$
8. $32 \times 6 = 192$
9. 208
10. 222
11. 288
12. 34 cm
13. 16 cm

Think. 144, 72, 48, 36, 24;
 $2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 288$

Page 52

1. 6 cm^2
2. 24 cm^2
3. 54 cm^2
4. 96 cm^2
5. 4
6. 9
7. 16
8. When multiplying sides by 2, multiply the area by 4. When multiplying sides by 3, multiply the area by 9. When multiplying sides by 4, multiply the area by 16. (Multiply the area by the number squared.)

Page 53

1. a 36 cm^2
 b 36 cm^2
 c 65 cm^2
 d 36 cm^2
 e 28 cm^2
 f 84 cm^2
2. a 144 cm^2
 b 144 cm^2
 c 260 cm^2
 d 144 cm^2
 e 112 cm^2
 f 336 cm^2
3. Four times
4. When you double the sides the area is multiplied by 4.

Page 54

1. a 64 cm^2
 b 72 cm^2
 c 72 cm^2
 d 27.5 cm^2
 e 38.5 cm^2
 f 63 cm^2
2. a 256 cm^2
 b 288 cm^2
 c 288 cm^2
 d 110 cm^2
 e 154 cm^2
 f 252 cm^2
3. When you double the sides the area is multiplied by 4.

Think. 52 cm^2 , 208 cm^2 . Yes.

Page 55

1. 2
2. 2 arrangements ABC, ACB
3. BAC, BCA
4. CAB, CBA

6. 6

Number of counters	Number of arrangements
2	2
3	6
4	24
5	120
6	720

Think. Check children make their arrangements systematically.

Page 56

1. ABCD, ABDC
2. ACBD, ACDB
3. ADBC, ADCB
4. BACD, BADC, BCAD, BCDA, BDAC, BDCA
5. CABD, CADB, CBAD, CBDA, CDAB, CDBA, DABC, DACB, DBAC, DBCA, DCAB, DCBA
6. 24
- 7.

Number of counters	Number of arrangements	Pattern for number of arrangements
2	2	2×1
3	6	$3 \times 2 \times 1$
4	24	$4 \times 3 \times 2 \times 1$
5	120	$5 \times 4 \times 3 \times 2 \times 1$
6	720	$6 \times 5 \times 4 \times 3 \times 2 \times 1$

8. Answers will vary.

Page 57

1. 2
2. 24 ways - ABCD, ABDC, ACBD, ACDB, ADBC, ADCB, BACD, BADC, BCAD, BCDA, BDCA, BDAC, CABD, CADB, CBAD, CBDA, CDAB, CDBA, DABC, DACB, DBAC, DBCA, DCAB, DCBA

3. Completed table.

4. Yes

5. 120, 720

Think. 5040

Page 58

Questions should be answered using column addition

1. 3927
2. 9255
3. 9754
4. 7291
5. 4708
6. 8199
7. 9462
8. 5616

Think. $3862 + 1428 = 5290$ or $3862 + 2428 = 6290$ or $3862 + 3428 = 7290$ or $3862 + 4428 = 8290$ or $3862 + 5428 = 9290$.

Page 59

1. $4756 + 3862 = 8618$
2. $6846 + 517 = 7363$
3. $361 + 872 + 685 = 1918$
4. $6446 + 1178 = 7624$
5. $9364 + 477 = 9841$
6. $78 + 38 + 67 + 49 = 232$
7. $235 + 953 + 864 = 2052$
8. $629 + 957 + 47 = 1633$
9. $319 + 208 + 425 = 952$
10. $26 + 57 + 27 + 31 = 141$
11. $839 + 314 + 18 = 1171$
12. $3856 + 2918 = 6774$
13. £1095

Think. $3964 + 1468 = 5432$

Page 60

1. $£24.82 + £41.56 = £66.38$
2. $£54.29 + £32.48 = £86.77$
3. $£77.22 + £13.61 = £90.83$
4. $£48.26 + £36.39 = £84.65$
5. $£32.14 + £29.48 = £61.62$
6. $£52.99 + £36.67 = £89.66$
7. $£48.52 + £37.57 = £86.09$
8. $£46.69 + £27.68 = £74.37$
9. £55.81
10. 38p

Think. Answers will vary, but an example is: Gloves costing £5.81 + Socks £1.08 + Scarf £3.11 = £10.00

Page 61

1. £64.27
2. £59.15
3. £62.88
4. £49.24
5. £94.73
6. £89.37
7. 6p

Think. Answers will vary, but an example is: Doll £5.18 + Sweets 76p + Book £6.18 = £12.12

Page 62

Questions should be answered using column addition

1. 2202
2. 4155
3. 4341
4. 3355
5. 2412
6. 2331
7. 2032
8. 1723
9. 136
10. 255

Think. 422. Sentences will vary.

Page 63

1. $7494 - 4624 = 2870$
2. $5006 - 3997 = 1009$
3. $5963 - 3748 = 2215$
4. $8096 - 6846 = 1250$
5. $7342 - 3268 = 4074$
6. $7004 - 4989 = 2015$
7. $8245 - 5864 = 2381$
8. $6113 - 4745 = 1368$

Think. Answers will vary but should demonstrate an understanding of the two methods.

Page 64

1. $7494 - 4865 = 2629$
2. $5524 - 957 = 4567$
3. $6724 - 748 = 5976$
4. $6034 - 1452 = 4582$
5. $7332 - 4889 = 2443$
6. $9506 - 784 = 8722$
7. $5054 - 3859 = 1195$
8. $8014 - 4667 = 3347$
9. £1778
10. 1672 g

Think. There are a range of possible answers, e.g. A could be 5, B could be 4, C could be 6 (ABC = 546, CBA = 645). A could be 8, B could be 4, C could be 3 (ABC = 843, CBA = 348). A could be 9, B could be 4, C could be 2 (ABC = 942, CBA = 249).

Page 65

1. £8.27
2. £5.25
3. £2.43
4. £1.73
5. £6.11
6. £8.77

7. £3.68
8. £9.55
9. £4.93

Think. Answers will vary but will be between £4.80 and £4.90.

Page 66

1. £7.43
2. £12.25
3. £3.58
4. £2.87
5. £23.80
6. £30.78
7. £26.78
8. £41.74

Think. £2.11, £3.22, £4.33, £5.44, £6.55, £7.66, £8.77, £9.88, ...

Page 67

1. £24.65
2. £9.91
3. £15.13
4. £7.30
5. £18.76
6. £17.74, yes

Think. Answers will vary but will lie between £3.17 and £3.30.

Page 68

1. (2, 1), (5, 1), (2, 5)
2. (1, 1), (4, 1), (6, 6), (3, 6)
3. (Isosceles) triangle
4. Rectangle
5. (Isosceles) trapezium
6. Pentagon
7. A pentagon with one vertical line of symmetry
8. An irregular octagon with two right angles

Think. If plotted answers should make the indicated shape

Page 69

1. (1, 2), (4, 2) (4, 4) (1, 4)
2. (5, 2), (8, 2) (8, 4) (5, 4)
3. (5, 3), (8, 3) (8, 5) (5, 5)
4. (2, 0), (4, 0), (3, 3)
5. (1, 0), (3, 0), (2, 3)
6. (3, 3), (6, 3), (3, 5)
7. (3, 1), (6, 1), (3, 3)

Think. In the positive quadrant (4, 3) and (4, 6). Other answers with negative coordinates are possible

Page 70

- (6, 6) (8, 6) (8, 9)
- (9, 7) (14, 7) (9, 8) (14, 8)
- (0, 3) (2, 1) (4, 3) (2, 5)
- (0, 1) (1, 0) (3, 1) (3, 2) (0, 3)
- (7, 7) (9, 6) (11, 6) (12, 7) (11, 9) (9, 9)

Think. Answers will vary but will result in a total move of 3 squares to the right and 5 down.

Page 71

- Film 3
- 30 minutes
- Film 2
- 165 minutes
- 4
- 4
- Bar chart showing 8 Comedy films, 4 Horror, 6 Children's and 2 Drama

Think. 9, sparrows and blackbirds, 27

Page 72

- 8
- 2 min 30 s
- 3 min
- 4
- 20
- 36

Think. $2\frac{1}{2}$ squares

Page 73

- 11:00 am and 7:00 pm
- 2:00 pm and 4:00 pm
- 12:00 pm and 6:00 pm
- 1:00 pm and 5:00 pm
- 18 °C
- 20 °C
- 32 °C
- 22 °C
- 8 °C
- 10 °C

Think. about 22 °C

Page 74

- 4:00 am, 6:00 am, 12 midnight
- 8:00 am, 10:00 pm
- 12 noon, 6:00 pm
- 10:00 am, 8:00 pm,
- 2:00 pm
- about 1:00 pm, 4:00 pm
- 2:00 pm
- 4:00 am, 6:00 am, 12 midnight
- 11:00 am, 7:00 pm

- 10 °C
- 11 °C
- 14 °C
- 10 °C
- 12 °C
- 20 °C
- 12 °C
- 18 °C
- 11 °C
- 16 °C
- 20 °C
- 13 °C

Think. Answers will vary but graph should have typical features (e.g. labels, etc) and a sensible temperature pattern

Page 75

- 2:00 pm and 6:00 pm
- about 9:00 am and 8:00 pm
- 8:00 am and about 9:00 pm
- about 11:00 am and about 7:00 pm
- 10 °C
- 15 °C
- 17 °C
- 17 °C
- 4 °C
- 6 °C

- about 9:30 pm
- It might have, but we do not have the information.

Think. Answers will vary.

Page 76

- 1134 miles
- Reykjavik, Moscow and Cairo
- Reykjavik, Moscow, Cairo and Kuwait
- Reykjavik, Moscow, Cairo, Kuwait and Abu Dhabi
- Reykjavik, Moscow, Cairo, Kuwait, Abu Dhabi and New York
- Reykjavik, Moscow, Cairo, Kuwait, Abu Dhabi, New York and Mumbai
- Reykjavik, Moscow, Cairo, Kuwait, Abu Dhabi, New York, Mumbai and Panama

Think. No

Page 77

- £2340
- £2487
- £6846
- 6 tickets to India cost £508 less than 4 tickets to Australia

- £145
 - $345 \times 5 = 1725$
 - $6 \times 187 = 1122$
 - $294 \times 4 = 1176$
 - $7 \times 621 = 4347$
 - $5 \times 717 = 3585$
 - $867 \times = 5202$
 - $9 \times 649 = 5841$
 - $468 \times 7 = 3276$
- Think. $225 \times 9 = 2025$

Page 78

Think. Questions 4, 5, 9 and 10 will be more than 3000. Questions 1, 2, 3, 6, 7 and 8 will be less than 3000.

- $6 \times 263 = 1578$
- $4 \times 425 = 1700$
- $7 \times 336 = 2352$
- $743 \times 8 = 5944$
- $9 \times 346 = 3114$
- $716 \times 4 = 2864$
- $292 \times 8 = 2336$
- $9 \times 178 = 1602$
- $664 \times 7 = 4648$
- $5 \times 793 = 3965$

Page 79

- $\frac{2}{6} + \frac{2}{6} = \frac{4}{6}$
- $\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$
- $\frac{1}{6} + \frac{5}{6} = \frac{6}{6}$ or 1 whole
- $\frac{3}{6} + \frac{3}{6} = \frac{6}{6}$ or 1 whole
- $\frac{1}{8} + \frac{4}{8} = \frac{5}{8}$
- $\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$
- $\frac{5}{8} + \frac{3}{8} = \frac{8}{8}$ or 1 whole
- $\frac{6}{8} + \frac{1}{8} = \frac{7}{8}$
- $\frac{1}{4} + \frac{3}{4} = \frac{4}{4}$ or 1 whole
- $\frac{3}{4} + \frac{2}{4} = 1\frac{1}{4}$
- $\frac{3}{4} + \frac{3}{4} = 1\frac{2}{4}$ or $1\frac{1}{2}$

Think. Answers will vary.

Page 80

- $\frac{6}{8} + \frac{3}{8} = \frac{9}{8}$ or $1\frac{1}{8}$
- $\frac{7}{8} + \frac{4}{8} = \frac{11}{8}$ or $1\frac{3}{8}$
- $\frac{7}{8} + \frac{7}{8} = \frac{14}{8}$ or $1\frac{6}{8}$
- $\frac{3}{5} + \frac{4}{5} = \frac{7}{5}$ or $1\frac{2}{5}$
- $\frac{2}{5} + \frac{4}{5} = \frac{6}{5}$ or $1\frac{1}{5}$
- $\frac{4}{5} + \frac{4}{5} = \frac{8}{5}$ or $1\frac{3}{5}$
- $\frac{6}{10} + \frac{8}{10} = \frac{14}{10}$ or $1\frac{4}{10}$
- $\frac{3}{10} + \frac{9}{10} = \frac{12}{10}$ or $1\frac{2}{10}$
- $\frac{9}{10} + \frac{8}{10} = \frac{17}{10}$ or $1\frac{7}{10}$

Think. Answers should include two new additions with totals less than 1 and two new with totals more than 1

Page 81

1. $0.4 \times 10 = 4$
2. $0.04 \times 100 = 4$
3. $4 \div 10 = 0.4$
4. $0.4 \div 10 = 0.04$
5. $25 \div 10 = 2.5$
6. $25 \div 100 = 0.25$
7. $0.03, 0.42, 0.007, \div 1000$

Think. Answers will vary, but the numbers that come out of the third should be the same as the numbers that go in the first.

Page 82

1. $0.04 \times 10 = 0.4$
2. $0.13 \times 100 = 13$
3. $27 \div 10 = 2.7$
4. $0.7 \div 10 = 0.07$
5. $0.18 \times 10 = 1.8$
6. $146 \div 100 = 1.46$
7. $0.12, 0.075, 90, 6, \div 1000$

Think. 5, 15

Page 83

1. 385
2. 506
3. 418
4. 209
5. 297
6. 583
7. 444
8. 516
9. 348
10. 648
11. 312

Think. 693, 756. The explanation might include something like 10×63 and 2×63

Page 84

Questions should be answered using the grid method.

1. 384
2. 516
3. 312
4. 336
5. 408
6. 576

Think. Answers will vary, children should notice that their $\times 12$ answer is double their $\times 6$ answer

Page 85

Questions should be answered using the grid method.

1. 480
2. 602
3. 468

4. 384
5. 273
6. 392
7. 384
8. 375
9. 378
10. 377

Think. $13 \times 25 = 325, 15 \times 23 = 345$

Page 86

1. $13 \times 28 = 364$
2. $14 \times 32 = 448$
3. $13 \times 27 = 351$
4. $16 \times 34 = 544$
5. $14 \times 52 = 728$
6. $15 \times 27 = 405$
7. $14 \times 28 = 392$
8. $18 \times 43 = 774$
9. $17 \times 24 = 408$
10. $14 \times 61 = 854$
11. 384
12. £6.11

Think. 13×17

Page 87

1. $24 \times 45 = 1080$
2. $26 \times 42 = 1092$
3. $27 \times 51 = 1377$
4. $32 \times 46 = 1472$
5. $35 \times 48 = 1680$
6. $28 \times 36 = 1008$
7. $25 \times 53 = 1325$

Think. 25

Page 88

Think. Question 1 has the smallest answer, Question 6 the largest.

1. $27 \times 37 = 999$
2. $28 \times 53 = 1484$
3. $36 \times 45 = 1620$
4. $25 \times 57 = 1425$
5. $37 \times 47 = 1739$
6. $34 \times 56 = 1904$
7. $32 \times 57 = 1824$
8. $23 \times 58 = 1334$
9. 736
10. £16.20
11. £15.08

Page 89

1. £23
2. £21
3. £11
4. £7
5. £13
6. £7
7. £11

8. £6
9. £5

Think. £36, £24, £18

10. 7 kg, 14 kg
11. 9 kg, 27 kg
12. 9 kg, 27 kg
13. 7 kg, 35 kg
14. 6 kg, 30 kg
15. 6 kg, 18 kg

Page 90

1. £36
2. £18
3. £18
4. £18
5. £24
6. £9
7. £25
8. £16
9. £35
10. $\frac{7}{10}$ of 80 g = 56 g
11. $\frac{3}{4}$ of 12 km = 9 km
12. $\frac{5}{6}$ of 300 ml = 250 ml
13. $\frac{7}{9}$ of 18 m = 14 m
14. $\frac{3}{8}$ of 40 l = 15 l
15. $\frac{2}{7}$ of 63 kg = 18 kg
16. $\frac{4}{6}$ of 18 g = 12 g
17. $\frac{2}{3}$ of 24 cm = 16 cm
18. $\frac{5}{7}$ of 63 l = 45 l

Think. Answers will vary.

Page 91

1. 215
2. £732
3. 216
4. £5.22
5. 179
6. £16.10
7. £1.90

Think. Answers will vary.

Page 92

Think. Q10 has the largest answer. Q11 has the smallest.

1. $1646 + 6264 = 7910$
2. $723 \div 3 = 241$
3. $3008 - 1989 = 1019$
4. $489 + 78 = 567$
5. $908 \div 4 = 227$
6. $8715 - 7957 = 758$
7. $14 \times 48 = 672$
8. $4863 - 323 = 4540$
9. $543 \times 4 = 2172$
10. $8215 + 1653 = 9868$
11. $152 \div 8 = 19$
12. $25 \times 23 = 575$

Page 93

1. $5099 + 100 = 5199$
 $5099 - 100 = 4999$
 $5099 + 1000 = 6099$
 $5099 + 1000 = 6099$
2. $13.7 + 0.3 = 14$
3. $121 \div 11 = 11$
4. $£77.22 + £13.61 = £90.83$
5. $3008 - 1989 = 1019$
6. $4 \times 827 = 3308$
7. $3 \times 406 = 1218$
8. $8096 - 6846 = 1250$
9. $45 + 48 = 93$
 $745 + 48 = 793$
 $7445 + 48 = 7493$
10. $7 \times 12 = 84$
11. $£48.52 + £37.57 = £86.09$
12. $14 \times 61 = 854$
13. $14 \times 52 = 728$
14. $8 \times 202 = 1616$
15. $8215 + 1653 = 9868$
16. $5 \times 734 = 3670$
17. $613 - 4745 = 1368$
18. 181
19. £43.34
20. 210 cm or 2.1 m
21. 2.31 m or 231 cm

10. 5.9 and 6.4
11. 3.62 becomes 4, 7.99 becomes 8, 8.94 becomes 9, 2.65 becomes 3, 5.86 becomes 6, 9.19 becomes 9
12. Answers will vary

Page 94 and 95

1. Estimates will vary, actual quantity is 80
2. a) Any answer between 8 and 9
 b) Any answer between 30 and 31
 c) Any answer between 11 and 12
 d) Any answer between 7.5 and 7.6
3. 4.6, 5.3, 5.9, 6.4
4. Answers will vary but could be 909, 30.9 or 99.9. Other answers are also possible
5. $3.62 = 3 + 0.6 + 0.02$,
 $7.99 = 7 + 0.9 + 0.09$,
 $8.94 = 8 + 0.9 + 0.04$,
 $2.65 = 2 + 0.6 + 0.05$,
 $5.86 = 5 + 0.8 + 0.06$,
 $9.19 = 9 + 0.1 + 0.09$
6. 31.1, 30.9, 30.1, 13.9, 11.3,
7. 2 blue numbers have 9 as a tenths digit, 7.99 and 8.94
8. Estimates may vary but might take account of the previous estimate in question 1
9. 4.6 is the odd one out, it rounds down to 0, the others round to 10