

# Answers Busy at Maths 4

## PAGE 1

- 1.**  
(a) 124  
(b) 341  
(c) 406  
(d) 515  
(e) 630
- 3.**  
(a) 27, 72, 85  
(b) 128, 281, 812  
(c) 376, 637, 763  
(d) 428, 482, 842
- 4.**  
(a) Three hundred and forty-five  
(b) Four hundred and seventy  
(c) Two hundred and seventy-six  
(d) Eight hundred and thirteen

- 5.**  
(a) 20  
(b) 50  
(c) 80  
(d) 80  
(e) 120  
(f) 440  
(g) 650  
(h) 980

- 6.**  
(a) 200  
(b) 300  
(c) 300  
(d) 500  
(e) 600  
(f) 800  
(g) 600  
(h) 300

## PAGE 2

- 1.**  
(a) Forty  
(b) Three hundred  
(c) Ninety  
(d) Five hundred  
(e) Three  
(f) Nine hundred

- 2.**  
(a) 3 tens + 4 units  
(b) 6 hundreds + 7 tens + 5 units
- 3.**  
(a) 17 units  
(b) 6 tens + 16 units

- 4.**  
(a) 17 tens + 5 units  
(b) 6 hundreds + 15 tens + 4 units

- 5.**  
(a) Rectangle  
(b) Hexagon  
(c) Square  
(d) Triangle  
(e) Semi-circle

- 6.**  
(a) Pyramid  
(b) Cone  
(c) Sphere  
(d) Cylinder  
(e) Triangular Prism

## PAGE 3

- 1.**  
(a)  $\frac{1}{4}$   $\frac{3}{4}$   
(b)  $\frac{1}{2}$   $\frac{1}{2}$   
(c)  $\frac{3}{8}$   $\frac{5}{8}$

- 2.**  
(a) 6  
(b) 2  
(c) 3  
(d) 5  
(e) 4  
(f) 4  
(g) 7  
(h) 10

- 3.** 8, 28, 24, 16, 32, 4, 36, 40, 12, 20, 44, 48

- 4.** 24, 72, 8, 48, 16, 56, 40, 80, 64, 32, 88, 96

- 6.**  
(a) =  
(b) <  
(c) >  
(d) >  
(e) <  
(f) =  
(g) <  
(h) >

## PAGE 4

- 1.**  
(a) (i) 20 past 10  
(ii) 10:20  
(b) (i) 25 past 11  
(ii) 11:25  
(c) (i) 20 to 3  
(ii) 2:40  
(d) (i) 5 to 12  
(ii) 11:55

- 2.**  
(a) 2:30  
(b) 3:40  
(c) 4:45  
(d) 6:55  
(e) 11:10

- 3.**  
(a) 6:30  
(b) 9:25  
(c) 10:00  
(d) 10:55  
(e) 8:45

- 4.**  
(a) 125c  
(b) 274c  
(c) 743c  
(d) 967c  
(e) 632c  
(f) 547c  
(g) 859c  
(h) 999c

- 5.**  
(a) €1.29  
(b) €2.68  
(c) €4.69  
(d) €8.70

- 6.**  
(a) 568  
(b) 775  
(c) 839  
(d) 824  
(e) 854

- 7.**  
(a) 444  
(b) 444  
(c) 352  
(d) 353  
(e) 222

Challenge: 685

## PAGE 5

- 1.**  
(a) 24, 12, 20, 8, 40, 32, 16, 36, 28  
(b) 49, 21, 7, 42, 56, 14, 28, 63, 35  
(c) 4, 2, 6, 1, 8, 3, 5, 9, 7  
(d) 5, 2, 8, 1, 3, 6, 4, 9, 7

- 2.**  
(a) 12  
(b) 25  
(c) 24  
(d) 72  
(e) 42  
(f) 63  
(g) 45  
(h) 70

- 3.**  
(a) 4  
(b) 4  
(c) 7  
(d) 9

- 4.**  
(a) 6  
(b) 6  
(c) 7  
(d) 10  
(e) 7

- 5.**  
(a) 7  
(b) 6  
(c) 7

(d) 6

(e) 8

6.

(a) 21

(b) 36

(c) 40

(d) 42

(e) 36

(f) 50

7.

(a) 104

(b) 160

(c) 270

(d) 232

(e) 658

(f) 783

8.

(a) 15 R1

(b) 8 R5

(c) 12 R5

(d) 11 R4

9.

(a) 5kg 559g

(b) 3kg 229g

(c) 8kg 943g

(d) 3kg 219g

(e) 6kg 259g

10.

(a) 1m 37cm

(b) 2m 74cm

(c) 7m 80cm

(d) 4m 8cm

## PAGE 6

1. 98, 99, 100, 101, 102, 103, 104

2. 130

3. 200

4. 4.7

5. 30

6. 1000

7. 200

8. 32

9. (a)

10. 9

11. (a)

12. €2.20

13. 9

14. 28

15. 8

16. 5

17. 112cm

18. 50c

19. 9 nets 3 left over

20. January 1st

## PAGE 7

1. 3000 + 200 + 30 + 4

2. 4000 + 200 + 50 + 8 = 4258

3. 2000 + 400 + 30 + 9 = 2439

4. 5000 + 100 + 60 + 7 = 5167

5. 3 tens + 6 units

6. 4 thousands + 7 hundreds + 5 tens + 1 unit = 4751

## PAGE 8

1.

(a) 2774

(b) 5016

(c) 3420

(d) 6402

(e) 3323

3.

(a) 2222

(b) 4026

(c) 5404

(d) 6311

(e) 1356

5. 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246

## PAGE 9

2. 3000 + 200 + 20 + 9  
3 + 2 + 2 + 9

3. 2000 + 800 + 10 + 1  
2 + 8 + 1 + 1

4. 4000 + 300 + 0 + 6  
4 + 3 + 0 + 6

5. 6000 + 0 + 80 + 4  
6 + 0 + 8 + 4

6. 8000 + 300 + 40 + 0  
8 + 3 + 4 + 0

7. 5000 + 0 + 0 + 6

5 + 0 + 0 + 6

8. 7000 + 0 + 0 + 0

7 + 0 + 0 + 0

9. 9000 + 900 + 90 + 9

9 + 9 + 9 + 9

## PAGE 10

1.

(a) 300

(b) 9

(c) 2000

(d) 40

(e) 600

(f) 6

(g) 6000

(h) 60

(i) 300

(j) 100

(k) 7000

(l) 0

3.

(a) 8321 1238

(b) 9641 1469

(c) 8852 2588

(d) 9321 1239

(e) 8541 1458

(f) 9432 2349

(g) 3333 3333

(h) 9651 1569

## PAGE 11

1. 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042.

2.

(a) 2000, 3000, 5000

(b) 1200, 1700, 1900

(c) 3560, 7560, 8540

3.

(a) 3946, 3469, 1125

(b) 3876, 3867, 3786

(c) 9942, 4992, 4299

4.

(a) example given in book

(b) Two thousand four hundred and seventy-eight

(c) Four thousand six hundred and ninety

(d) Five thousand six hundred and four

(e) Eight thousand and ninety-nine

(f) Nine thousand nine hundred and ninety-nine

5.

(a) 6595

(b) 4484

(c) 3064

(d) 8376

(e) 9007

Challenge: 7599

## PAGE 12

1. 1876, 1893, 1899, 1927, 1933, 1983, 1995, 2000.

2. 1834, 1901, 1902, 1905, 1906, 1909, 1924, 1967.

3. €4480, €4804, €8044, €8404, €8440.

4. 5829, 6729, 6819, 6829, 6839, 6929, 7829.

3372, 4272, 4362, 4372, 4382, 4472, 5372.

956, 1856, 1946, 1956, 1966, 2056, 2956.

4043, 4943, 5033, 5043, 5053, 5143, 6043.

5805, 6705, 6795, 6805, 6815, 6905, 7805.

6260, 7160, 7250, 7260, 7270, 7360, 8260.

7000, 7900, 7990, 8000, 8010, 8100, 9000.

Challenge: 4875

**PAGE 13**

- 1.
- (a) INDIAN
- (b) ARCTIC
- (c) SOUTH PACIFIC
- (d) SOUTH ATLANTIC
- (e) ANTARCTIC
- (f) NORTH PACIFIC
- (g) NORTH ATLANTIC

2. 4th  
2nd  
3rd  
1st  
5th

3. 2nd  
4th  
5th  
1st  
3rd

**PAGE 14**

- 2.
  - (a) 3
  - (b) 7
  - (c) 12
  - (d) 15
  - (e) 36
  - (f) 333
  - (g) 4136
  - (h) 3401
- 3.
  - (a) 2043
  - (b) 4017
  - (c) 4050
- 4.
  - (a) 1111
  - (b) 1218
  - (c) 3202

**PAGE 15**

- A** 795 798 777 349  
i p o d
- B** 499 364 449 349 798  
h e a d p  
499 777 615 364 862  
h o n e s
- C** 862 895 795 662 364  
s m i l e
- D** 657 449 798  
t a p

- E** 408 449 798  
r a p
- F** 895 M  
795 I  
615 N  
349 D
- G** 777 O  
381 K  
449 A  
481 Y

**PAGE 16**

- 1.
- (a) 4577
- (b) 3998
- (c) 7979
- (d) 7789
- (e) 7999
- (f) 7889

- 2.
- (a) 3764
- (b) 6773
- (c) 7984
- (d) 8895
- (e) 4695
- (f) 8895

- 3.
- (a) 6743
- (b) 9841
- (c) 9964
- (d) 8947
- (e) 7961
- (f) 7933

4. 5593
5. 9823

**Challenge:** 3722

**PAGE 17**

- 1.
  - (a) 5146
  - (b) 8420
  - (c) 9162
  - (d) 8335
  - (e) 9443
- 2.
  - (a) 6877
  - (b) 8072
  - (c) 6970

- (d) 7405
  - (e) 6826
- 3.
  - (a) 6799
  - (b) 8986
  - (c) 7844
  - (d) 7688
  - (e) 8565

4. 2761
5. 5763

**Challenge 1:** 7166

**Challenge 2:** 8505m

**PAGE 18**

- 1.
- A.** 23, 17, 43, 56, 35  
e, l, b, o, w
- B.** 214, 434, 401  
l, a, m
- C.** 401, 56, 777, 434  
M, o, n, a  
  
17, 214, 245, 434  
L, i, s, a
- D.** 245, 123, 214, 245, 245, 56, 330, 245  
s, c, i, s, s, o, r, s
- E.** 245 123, 330, 23, 23, 123, 466, 23, 264  
s, c, r, e, e, c, h, e, d
- F.** 401, 23, 777  
m, e, n

- G.**  
337 p  
56 o  
337 p  
23 e

- A** elbow  
**B** I am  
**C** Mona Lisa  
**D** scissors  
**E** screeched  
**F** men  
**G** pope

**PAGE 19**

- 1.
- (a) 5228
- (b) 5323
- (c) 2251
- (d) 5215
- (e) 5573
- (f) 6612
- (g) 4515
- (h) 2147

- 2.
- (a) 4364
- (b) 3238
- (c) 1224
- (d) 5618
- (e) 7318
- (f) 3517
- (g) 5745
- (h) 5525

- 3.
- (a) 3234
- (b) 4566
- (c) 7479
- (d) 7267
- (e) 4378
- (f) 2179
- (g) 3267
- (h) 2378

4. 1122
5. 1471km

**Challenge:** 2548km

**PAGE 20**

- 1.
  - (a) 5738
  - (b) 5774
  - (c) 4667
  - (d) 4866
  - (e) 2386
- 2.
  - (a) 2688
  - (b) 3254
  - (c) 2433
  - (d) 3243
  - (e) 4558

3.  
 (a) 3291  
 (b) 5143  
 (c) 2655

4.  
 (a) 3287  
 (b) 2619

5. 504km  
 6. €3964

Challenge: €3535

## PAGE 21

1.  
 (a) 1316  
 (b) 2621  
 (c) 1628  
 (d) 1165  
 (e) 2752

2.  
 (a) 653  
 (b) 1441  
 (c) 3532  
 (d) 1655  
 (e) 5913

Challenge: 4451

## PAGE 22

1.  
 (a) 4605km  
 (b) 1395km  
 (c) 1095km  
 (d) 2210km

2.  
 (a) 6345  
 (b) 8720  
 (c) 5247  
 (d) 6479  
 (e) 4836  
 (f) 3657

- (g) 5551  
 (h) 9245

3. 7815  
 4. 5758

Challenge: 2365

## PAGE 23

2.  
 (a) Tablet  
 (b) 76  
 (c) 24  
 (d) (i) 6  
 (ii) €558

## PAGE 24

2.  
 (a) (i) 80  
 (ii) 20  
 (iii) 60  
 (iv) 70  
 (v) 40  
 (b) 50  
 (c) 20  
 (d) 420  
 (e) 100

## PAGE 25

2.  
 (a) (i) Kasper  
 (ii) Jess  
 (b) 15m  
 (c) 185m  
 (d) Kasper  
 (e) 315m  
 (f) 25m

## PAGE 26

1. 16  
 8  
 15  
 13  
 6
2.  
 (a) #  
 (b) Jurassic  
 (c) Ancient Rome  
 (d) 9  
 (e) 58  
 (f) Vertical  
 (g) Stone Age

## PAGE 27

1.  
 (a) (i) rice  
 (ii) pasta  
 (b) (i) walk  
 (ii) bus  
 (c) (i) comedy  
 (ii) horror

2.  
 (a) 3  
 (b) Sickness  
 (c) (i)  $\frac{1}{2}$   
 (ii)  $\frac{1}{4}$   
 (iii)  $\frac{1}{4}$   
 (d) 20  
 (e) 30

3.  
 (a) #  
 (b) 50  
 (c) 25

## PAGE 28

1. 5470, 5500, 5000  
 2620, 2600, 3000  
 6140, 6100, 6000  
 3200, 3200, 3000  
 9310, 9300, 9000
2.  
 (a) Given as example
- (b)  $\begin{array}{r} 180 \\ +60 \\ \hline 240 \end{array}$       239
- (c)  $\begin{array}{r} 350 \\ +220 \\ \hline 570 \end{array}$       564
- (d)  $\begin{array}{r} 600 \\ +490 \\ \hline 1090 \end{array}$       1076

3.  
 (a) 741
- (b)  $\begin{array}{r} 500 \\ +300 \\ \hline 800 \end{array}$       811
- (c)  $\begin{array}{r} 2600 \\ +400 \\ \hline 3000 \end{array}$       3040
- (d)  $\begin{array}{r} 1700 \\ +3100 \\ \hline 4800 \end{array}$       4857

4. 70km    70km  
 20km    50km

## PAGE 29

1.  
 (a)  $\begin{array}{r} 3000 \\ +2000 \\ \hline 5000 \end{array}$       5403
- (b)  $\begin{array}{r} 4000 \\ +4000 \\ \hline 8000 \end{array}$       7797

- (c)  $\begin{array}{r} 6000 \\ +3000 \\ \hline 9000 \end{array}$       8611

2.  
 (a)  $\begin{array}{r} 240 \\ -170 \\ \hline 70 \end{array}$       81
- (b)  $\begin{array}{r} 1420 \\ -230 \\ \hline 1190 \end{array}$       1192

- (c)  $\begin{array}{r} 3720 \\ -1380 \\ \hline 2340 \end{array}$       2333

3.  
 (a)  $\begin{array}{r} 500 \\ -200 \\ \hline 300 \end{array}$       278

- (b)  $\begin{array}{r} 4900 \\ -100 \\ \hline 4800 \end{array}$       4748

- (c)  $\begin{array}{r} 2600 \\ -1400 \\ \hline 1200 \end{array}$       1164

4.  
 $\begin{array}{r} 6000 \\ -4000 \\ \hline 2000 \end{array}$       2799

- $\begin{array}{r} 9000 \\ -6000 \\ \hline 3000 \end{array}$       2189

- $\begin{array}{r} 9000 \\ -3000 \\ \hline 6000 \end{array}$       6226

5. 5400, 5447

Challenge (a): €600

Challenge (b): €2400

**PAGE 30 & 31**

1. €5125
2. €434
3. €2430
4. €1130
5. €4282
6. €2168
7. €5073
8. €5272
9. €2485
10. €72
11. €1312
12. €1974
13. €1400

**Challenge:** (a) €8484

**Challenge:** (b) €1515

**PAGE 32**

1. €4.00
2. 430
3. 600
4. 5996
5. 11
6. 2514
7. 1300
8. 5078
9. 318
10. 6431
11. 3800
12. 2000
13. 106
14. 3890
15. 16
16. 8
17. 500ml
18. 56
19. €3.15
20. 125

**PAGE 33**

1.
  - (a) 12
  - (b) 27
  - (c) 20
  - (d) 56
2.
  - (a) 20
  - (b) 60
  - (c) 54
  - (d) 56

**3.**

- (a) 16
- (b) 66
- (c) 54
- (d) 70

**4.**

- (a) 72
- (b) 84
- (c) 32
- (d) 90

**5.**

- (a)  $3 \times 6 = 6 \times 3$
- (b)  $5 \times 8 = 8 \times 5$
- (c)  $7 \times 3 = 3 \times 7$
- (d)  $7 \times 8 = 8 \times 7$
- (e)  $9 \times 6 = 6 \times 9$
- (f)  $8 \times 9 = 9 \times 8$

**Challenge:** (a) Paul = 63kg  
Tina = 72kg  
Alex = 54kg  
Sue = 81kg

**Challenge:** (b) 270kg

**PAGE 34**

**1.**

- (a)  $(5 \times 3) + (3 \times 3) = 24$
- (b)  $(4 \times 5) + (3 \times 5) = 35$
- (c)  $(6 \times 7) + (4 \times 7) = 70$
- (d)  $(7 \times 8) + (2 \times 8) = 72$
- (e)  $(6 \times 9) + (6 \times 9) = 108$
- (f)  $(6 \times 7) + (5 \times 7) = 77$

**2.**

- (a)  $8 \times 4 = 32$
- (b)  $10 \times 7 = 70$
- (c)  $9 \times 6 = 54$
- (d)  $10 \times 8 = 80$

**3.**

- (a) 0
- (b) 0
- (c) 0
- (d) 0

**4.**

- (a) 6
- (b) 10
- (c) 3
- (d) 17

**5.**

- (a) 30
- (b) 80
- (c) 40
- (d) 380

**6.**

- (a) 30
- (b) 42
- (c) 18
- (d) 48
- (e) 12
- (f) 60

**Challenge:**

- Monday: 60
- Tuesday: 20
- Wednesday: 90
- Thursday: 70
- Friday: 110
- Saturday: 120

**PAGE 35**

**1.**

- (a)  $5 \times 5$
- (b)  $3 \times 3$
- (c)  $10 \times 10$
- (d)  $2 \times 2$
- (e)  $7 \times 7$

**2.**

- (a)  $4 \times 4$
- (b)  $1 \times 1$
- (c)  $8 \times 8$
- (d)  $12 \times 12$
- (e)  $9 \times 9$

**3.**

- (a) 48
- (b) 45
- (c) 72
- (d) 28
- (e) 27
- (f) 40
- (g) 56

**4.** 20km

**5.**

- (a) 56
- (b) 72
- (c) 96

**6.** €42

**7.**

- (a) 56
- (b) 40

**Challenge:** (a) 45  
(b) 27  
(c) 72  
(d) 63

**PAGE 36**

**1.**  $12 + 12 + 12 + 12 + 12 + 12 + 12 = 84$   
 $(10 \times 7) + (2 \times 7)$   
 $70 + 14 = 84$

**2.**  $16 + 16 + 16 + 16 + 16 = 80$   
 $(10 \times 5) + (6 \times 5)$   
 $50 + 30 = 80$

**3.**

- (a) 64
- (b) 51
- (c) 75
- (d) 72
- (e) 78
- (f) 96

**4.**

- (a) 112
- (b) 138
- (c) 285
- (d) 340
- (e) 462
- (f) 384

**5.**

- (a) 102
- (b) 168
- (c) 162
- (d) 144
- (e) 392
- (f) 315

**PAGE 37**

**1.** 63

**2.**

- (a) 48
- (b) 80

**3.**

- (a) 56
- (b) 72

4. 112

5.

(a) 52m

(b) 91m

6.

(a) 117m

(b) 104m

7. €63

8. €48

9.

(a) 216

(b) 378

10. 192

11. 486

Challenge 1: 216

Challenge 2: 40

## PAGE 38

1.

(a)  $14, 14 \div 7 = 2, 14 \div 2 = 7$

(b)  $24, 24 \div 4 = 6, 24 \div 6 = 4$

(c)  $56, 56 \div 7 = 8, 56 \div 8 = 7$

(d)  $45, 45 \div 9 = 5, 45 \div 5 = 9$

(e)  $30, 30 \div 10 = 3, 30 \div 3 = 10$

2.  $36 \div 9 = 4$

3.  $32 \div 8 = 4$

4.  $24 \div 8 = 3$

Challenge: (a) 3

(b) 4

(c) 6

(d) 9

(e) 12

(f) 18

## PAGE 39

1. 3

2.

(a) 3 R3

(b) 2 R3

3.

(a) 6 R0

(b) 10 R0

(c) 7 R2

(d) 4 R2

(e) 5 R0

4.

(a) €5.00 R €0

(b) €8.00 R €1.00

5.

(a) €5.00 R €0

(b) €5.00 R €5.00

Challenge: 9km

## PAGE 40

1.

(a) 4

(b) 5

(c) 6

(d) 5

(e) 6

(f) 3

(g) 9

(h) 6

(i) 5

(j) 4

(k) 4

(l) 5

(m) 4

(n) 5

(o) 8

2.

(a) 4 R2

(b) 5 R3

(c) 3 R8

(d) 4 R16

(e) 3 R0

(f) 5 R0

(g) 6 R2

(h) 3 R20

(i) 5 R5

(j) 3 R18

Challenge: 13

## PAGE 41

1.

(a) 2

(b) 5

(c) 7

(d) 8

2.

(a) 3

(b) 9

(c) 8

(d) 7

3.

(a) 11

(b) 8

(c) 9

(d) 8

4.

(a) 4

(b) 8

(c) 6

(d) 9

5.

(a) 6 R1

(b) 6 R3

(c) 6 R1

6.

(a) 8 R1

(b) 7 R2

(c) 8 R2

(d) 11 R2

7.

(a) 7 R4

(b) 8 R4

(c) 9 R2

(d) 8 R4

8.

(a) 12 R 2

(b) 12 R 4

(c) 8 R 3

(d) 7 R 2

9. 6

10. 7, 1

11.

(a) 4

(b) 4

Challenge: 3

## PAGE 42

1.

(a) 
$$\begin{array}{r} 2 \\ 5 \overline{) 13} \\ \underline{10} \\ 3 \end{array}$$
 R3  
(5x2)

(b) 
$$\begin{array}{r} 2 \\ 8 \overline{) 19} \\ \underline{16} \\ 3 \end{array}$$
 R3  
(8x2)

(c) 
$$\begin{array}{r} 7 \\ 6 \overline{) 44} \\ \underline{42} \\ 2 \end{array}$$
 R2  
(6x7)

(d) 
$$\begin{array}{r} 8 \\ 9 \overline{) 75} \\ \underline{72} \\ 3 \end{array}$$
 R3  
(9x8)

2. 22c

3. 9

4.

(a) 12

(b) 1

5. 9 R2

6. 7 R5

Challenge 1: 8 R7

Challenge 2: 9 R5

## PAGE 43

1.

(a) Vertical  
Parallel  
Perpendicular

(b) Vertical  
Horizontal  
Parallel

(c) Diagonal  
Parallel  
Parallel  
Perpendicular

(d) Diagonal  
Horizontal

## PAGE 44

1.

(a) Vertical

(b) Horizontal  
Diagonal

(c) Diagonal

- (d) Parallel
  - (e) Horizontal
  - Perpendicular
  - (f) Parallel
- 2.
- (a) Vertical
  - (b) Horizontal
  - (c) Diagonal
  - (d) Horizontal
  - (e) Vertical
  - (f) Parallel
  - (g) Perpendicular
  - (h) Orange and Green

**PAGE 45**

- 1.
- (a) Obtuse
  - (b) Right
  - (c) Acute
  - (d) Obtuse
  - (e) Obtuse
  - (f) Right
  - (g) Right
  - (h) Acute

**PAGE 46**

- 1.
- (a) Right
  - (b) Right
  - (c) Obtuse
  - (d) Acute
  - (e) Acute
  - (f) Obtuse
  - (g) Obtuse
  - (h) Acute
  - (i) Obtuse
  - (j) Acute
  - (k) Obtuse
  - (l) Acute
  - (m) Obtuse
  - (n) Right
  - (o) Acute
  - (p) Right
- 2.
- (a) Obtuse
  - (b) Right
  - (c) Obtuse
  - (d) Right
  - (e) Acute
  - (f) Obtuse

**PAGE 47**

- 1. 30
- 2. 7
- 3. 60
- 4. 400
- 5. Obtuse
- 6. 449
- 7.  $7 \times 8$
- 8. Vertical
- 9.  $4 \times 7$
- 10. 81
- 11. 250
- 12. Acute
- 13.  $6 \times 7$
- 14. 13
- 15. 8
- 16. 6
- 17. 8 R3
- 18. 7 bags, 1 left
- 19. 8 teams, 5 children leftover
- 20. 60

**PAGE 48**

- (a) 805      **SOB**
  - (b) 7718     BILL
  - (c) 618      BIG
  - (d) 771      ILL
  - (e) 607      LOG
  - (f) 7714     HILL
  - (g) 710      OIL
- 2.
- (a) **Take away 100**
  - (b) Divide by 5
  - (c) Add 2000
  - (d)  $+ 31, + 5, + 3000$
  - (e)  $+ 96, + 1700$

**Challenge:** (a) 4320  
(b) 8640

**PAGE 49**

- 1.
- (a) 72
  - (b) 161
  - (c) 86
  - (d) 33
  - (e) 50
  - (f) 4
  - (g) 4
  - (h) 81

2. 123km
- 3.
- (a) **- 10**
  - (b) - 40
  - (c) - 6
  - (d) - 100
  - (e) - 8
  - (f) - 60
  - (g) - 10
  - (h) - 300
  - (i) - 1
  - (j) - 1000
  - (k) - 70
  - (l) - 800
  - (m) - 40
  - (n) - 4000
  - (o) - 400
  - (p) - 4

**Challenge:** 816 hrs

**PAGE 50**

- 1.
- (a) (i)  $\frac{1}{2}$   
(ii)  $\frac{1}{2}$
  - (b) (i)  $\frac{1}{10}$   
(ii)  $\frac{9}{10}$
  - (c) (i)  $\frac{1}{8}$   
(ii)  $\frac{7}{8}$
  - (d) (i)  $\frac{1}{4}$   
(ii)  $\frac{3}{4}$
- 2.
- (a)  $\frac{1}{2}$  or **one half**
  - (b)  $\frac{1}{4}$  or one quarter
  - (c)  $\frac{1}{8}$  or one eighth
  - (d)  $\frac{1}{10}$  or one tenth
- 3.
- (a)  $\frac{3}{4}$
  - (b)  $\frac{5}{8}$
  - (c)  $\frac{7}{10}$
  - (d)  $\frac{3}{8}$
  - (e)  $\frac{9}{10}$
  - (f)  $\frac{7}{8}$
4. Smaller

- 5.
- (a)  $\frac{2}{2}$
  - (b)  $\frac{4}{4}$
  - (c)  $\frac{8}{8}$
  - (d)  $\frac{10}{10}$
6.  $1 = \frac{1}{1} = \frac{2}{2} = \frac{4}{4} = \frac{8}{8} = \frac{10}{10}$
- 7.
- (a)  $\frac{1}{8} > \frac{1}{10}$
  - (b)  $\frac{3}{8} < \frac{3}{6}$
  - (c)  $\frac{7}{8} > \frac{7}{10}$

**PAGE 51**

- 1.
- (a) 3
  - (b) 6
  - (c) 9
  - (d) 12
- 2.
- (a) 2
  - (b) 6
  - (c) 14
  - (d) 16
- 3.
- (a) 5
  - (b) 15
  - (c) 45
  - (d) 50
- 4.
- (a) (i)  $\frac{2}{4}$   
(ii)  $\frac{1}{2}$
  - (b) (i)  $\frac{4}{8}$   
(ii)  $\frac{1}{2}$
  - (c) (i)  $\frac{5}{10}$   
(ii)  $\frac{1}{2}$
  - (d) (i)  $\frac{6}{8}$   
(ii)  $\frac{3}{4}$
- 5.
- (a) 20, 10, 5, 4
  - (b) (i) 20  
(ii) 10  
(iii) 5  
(iv) 4  
(v) 1

- 6.**  
**(a)**  $\frac{2}{4} = \frac{4}{8} = \frac{5}{10}$   
**(b)**  $\frac{2}{8}$   
**(c)**  $\frac{6}{8}$   
**(d)**  $\frac{8}{8}$   
**(e)**  $\frac{1}{1} = \frac{2}{2} = \frac{4}{4} = \frac{8}{8} = \frac{10}{10}$

- 7.**  
**(a)**  $\frac{1}{10}, \frac{1}{8}, \frac{1}{4}, \frac{1}{2}$   
**(b)**  $\frac{2}{10}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}$   
**(c)**  $\frac{3}{4}, \frac{7}{8}, \frac{9}{10}, \frac{2}{2}$   
**(d)**  $\frac{3}{10}, \frac{3}{8}, \frac{1}{2}, \frac{3}{4}$

## PAGE 52

- 1.**  
**(a)** 9  
**(b)** 12  
**(c)** 20  
**(d)** 30

- 2.**  
**(a)** 7  
**(b)** 6  
**(c)** 9  
**(d)** 7  
**(e)** 10  
**(f)** 16

- 3.**  
**(a)** (i) 9  
      (ii) 9  
**(b)** (i) 8  
      (ii) 8  
**(c)** (i) 5  
      (ii) 5  
**(d)** (i) 8  
      (ii) 8  
**(e)** (i) 15  
      (ii) 15  
**(f)** (i) 9  
      (ii) 9

- 4.**  
**(a)** (i)  $\frac{2}{4}$   
      (ii)  $\frac{1}{2}$   
**(b)** (i)  $\frac{6}{8}$   
      (ii)  $\frac{3}{4}$   
**(c)** (i)  $\frac{7}{10}$   
**(d)** (i)  $\frac{5}{10}$   
      (ii)  $\frac{1}{2}$

- 5.**  
**(a)**  $\frac{32}{4} = 8$   
**(b)**  $\frac{32}{8} = 4$

- 6.**  $\frac{40}{8} = 5$   
**Challenge:**  $\frac{60}{10} = 6$

## PAGE 53

- 2.**  
**(a)**  $\frac{1}{3}$   
**(b)**  $\frac{2}{3}$   
**(c)**  $\frac{1}{3}$   
**(d)**  $\frac{2}{3}$

- 3.**  
**(a)** 3  
**(b)** 6  
**(c)** 6  
**(d)** 12  
**(e)** 8  
**(f)** 16  
**(g)** 9  
**(h)** 18

- 4.** 10  
**5.** 12

**Challenge:** 18

## PAGE 54

- 2.**  
**(a)** 3  
**(b)** 6  
**(c)** 12  
**(d)** 15  
**(e)** 18  
**(f)** 5  
**(g)** 10  
**(h)** 15  
**(i)** 20  
**(j)** 25  
**(k)** 16  
**(l)** 30

- 3.**  
**(a)** 4  
**(b)** 20  
**(c)** 8  
**(d)** 24  
**(e)** 40  
**(f)** 9  
**(g)** 27  
**(h)** 45  
**(i)** 10

- (j)** 50  
**(k)** 12  
**(l)** 48

- 4.**  
**(a)** (i)  $\frac{2}{6}$  or  $\frac{1}{3}$   
      (ii)  $\frac{4}{6}$  or  $\frac{2}{3}$   
**(b)** (i)  $\frac{3}{6}$  or  $\frac{1}{2}$   
      (ii)  $\frac{3}{6}$  or  $\frac{1}{2}$   
**(c)** (i)  $\frac{2}{6}$  or  $\frac{1}{3}$   
      (ii)  $\frac{4}{6}$  or  $\frac{2}{3}$   
**(d)** (i)  $\frac{3}{6}$  or  $\frac{1}{2}$   
      (ii)  $\frac{3}{6}$  or  $\frac{1}{2}$

## PAGE 55

- 2.**  
**(a)**  $\frac{3}{9} = \frac{1}{3}$   
**(b)**  $\frac{1}{9} < \frac{1}{3}$   
**(c)**  $\frac{6}{9} = \frac{2}{3}$   
**(d)**  $\frac{8}{9} > \frac{2}{3}$   
**(e)**  $\frac{9}{9} = \frac{3}{3}$

- 3.**  
**(a)** 3  
**(b)** 15  
**(c)** 21  
**(d)** 24  
**(e)** 27  
**(f)** 7  
**(g)** 28  
**(h)** 14  
**(i)** 49  
**(j)** 56  
**(k)** 10  
**(l)** 42

- 4.**  
**(a)**  $\frac{1}{9}$  of 72 = 8 or  $\frac{72}{9} = 8$   
**(b)**  $\frac{1}{9}$  of 81 = 9 or  $\frac{81}{9} = 9$   
**(c)**  $\frac{1}{9}$  of 99 = 11 or  $\frac{99}{9} = 11$   
**(d)**  $\frac{1}{9}$  of 90 = 10 or  $\frac{90}{9} = 10$

- 5.**  
**(a)** 6  
**(b)** 48

**Challenge:** (a) 72  
           (b) 32

## PAGE 56

- 2.**  
**(a)**  $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{6}{12}$   
**(b)**  $\frac{1}{4} = \frac{2}{8} = \frac{3}{12}$   
**(c)**  $\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$

- (d)**  $\frac{1}{6} = \frac{2}{12}$   
**(e)**  $\frac{3}{4} = \frac{6}{8} = \frac{9}{12}$   
**(f)**  $\frac{2}{3} = \frac{4}{6} = \frac{8}{12}$   
**(g)**  $\frac{5}{6} = \frac{10}{12}$   
**(h)**  $\frac{2}{2} = \frac{3}{3} = \frac{4}{4} = \frac{6}{6} = \frac{8}{8} = \frac{12}{12}$

- 3.**  
**(a)**  $\frac{1}{12}, \frac{1}{6}, \frac{1}{4}, \frac{1}{3}$   
**(b)**  $\frac{1}{2}, \frac{7}{12}, \frac{2}{3}, \frac{3}{4}$   
**(c)**  $\frac{5}{12}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$   
**(d)**  $\frac{3}{4}, \frac{5}{6}, \frac{11}{12}, \frac{3}{3}$

- 4.**  
**(a)** 3  
**(b)** 15  
**(c)** 21  
**(d)** 27  
**(e)** 33  
**(f)** 5  
**(g)** 4  
**(h)** 6  
**(i)** 35  
**(j)** 42  
**(k)** 28  
**(l)** 40

## PAGE 57

- 1.**  
**(a)**  $\frac{1}{5} = \frac{2}{10}$   
**(b)**  $\frac{2}{5} = \frac{4}{10}$   
**(c)**  $\frac{3}{5} = \frac{6}{10}$   
**(d)**  $\frac{4}{5} = \frac{8}{10}$   
**(e)**  $\frac{5}{5} = \frac{10}{10}$   
**(f)**  $\frac{5}{10} = \frac{1}{2}$

- 2.**  
**(a)**  $\frac{1}{2}, \frac{3}{5}, \frac{7}{10}$   
**(b)**  $\frac{3}{10}, \frac{2}{5}, \frac{1}{2}$   
**(c)**  $\frac{1}{2}, \frac{7}{10}, \frac{4}{5}$   
**(d)**  $\frac{1}{5}, \frac{9}{10}, \frac{2}{2}$

- 3.**  $\frac{2}{10}, \frac{3}{10}, \frac{4}{10} (\frac{2}{5}), \frac{5}{10}, \frac{6}{10}$   
       $(\frac{3}{5}), \frac{7}{10}, \frac{8}{10} (\frac{4}{5}), \frac{9}{10}, \frac{10}{10}$

- 4.**  
**(a)**  $\frac{3}{5} = 12$  counters  
       $\frac{1}{5} = 4$  counters  
       $\frac{5}{5} = 20$  counters  
**(b)**  $\frac{5}{8} = 20$  squares  
       $\frac{1}{8} = 4$  squares  
       $\frac{8}{8} = 32$  squares  
**(c)**  $\frac{4}{9} = 20$  dots  
       $\frac{1}{9} = 5$  dots  
       $\frac{9}{9} = 45$  dots



- (d)  $\frac{7}{10} = 42$  dots  
 $\frac{1}{10} = 6$  dots  
 $\frac{10}{10} = 60$  dots

5.  
 (a) 32  
 (b) €54  
 (c) 80  
 (d) 60

**PAGE 58**

1.  
 (a) 6  
 (b) 3  
 (c) 4  
 (d) 3  
 (e) 5  
 (f) 3  
 (g) 6  
 (h) 2  
 (i) 5  
 (j) 10  
 (k) 9  
 (l) 6

2.  
 (a) 12  
 (b) 18  
 (c) 24  
 (d) 27

3.  
 (a) 15  
 (b) 15  
 (c) 9  
 (d) 21  
 (e) 10  
 (f) 20  
 (g) 6  
 (h) 18

4.  
 (a) 18  
 (b) 24  
 (c) 27  
 (d) 20

5.  
 (a) 18  
 (b) 6

6. 21

Challenge: €5

**PAGE 59**

1.  
 (a) 1.1  
 (b) 1.4  
 (c) 1.5  
 (d) 1.2  
 (e) 4.1

3.  
 (a) 0.2  
 (b) 0.7  
 (c) 1.6  
 (d) 2.8

4.  
 (a)  $1\frac{4}{10}$   
 (b)  $1\frac{7}{10}$   
 (c)  $1\frac{1}{10}$   
 (d)  $1\frac{8}{10}$   
 (e)  $2\frac{2}{10}$   
 (f)  $4\frac{6}{10}$   
 (g)  $7\frac{3}{10}$   
 (h)  $8\frac{5}{10}$

5.  
 (a) 0.2, 0.4, 0.7  
 (b) 0.1, 0.5, 0.8  
 (c)  $\frac{3}{10}$ , 1.3, 3.3  
 (d) 0.2, 0.4,  $\frac{6}{10}$

**PAGE 60**

2. 0.07  $\frac{7}{100} = 0.07$   
 3. 0.06  $\frac{6}{100} = 0.06$   
 4. 1.04  $1\frac{4}{100} = 1.04$   
 5. 1.08  $1\frac{8}{100} = 1.08$

6.  
 (a) 0.02  
 (b) 0.06  
 (c) 0.09  
 (d) 1.03  
 (e) 2.04  
 (f) 4.07  
 (g) 6.08  
 (h) 9.05

7.  
 (a)  $\frac{1}{100}$   
 (b)  $\frac{3}{100}$   
 (c)  $\frac{7}{100}$   
 (d)  $1\frac{4}{100}$   
 (e)  $2\frac{6}{100}$

- (f)  $3\frac{9}{100}$   
 (g)  $5\frac{8}{100}$   
 (h)  $7\frac{2}{100}$

**PAGE 61**

1.  
 (a)  $1 + \frac{2}{10} = 1.2$   
 (b)  $1 + \frac{8}{10} = 1.8$   
 (c)  $2 + \frac{3}{10} = 2.3$   
 (d)  $3 + \frac{5}{10} = 3.5$   
 (e)  $4 + \frac{6}{10} = 4.6$   
 (f)  $6 + \frac{8}{10} = 6.8$

2.  
 (a)  $\frac{1}{10} + \frac{4}{100} = 0.14$   
 (b)  $\frac{1}{10} + \frac{6}{100} = 0.16$   
 (c)  $\frac{1}{10} + \frac{5}{100} = 0.15$   
 (d)  $\frac{1}{10} + \frac{7}{100} = 0.17$   
 (e)  $\frac{1}{10} + \frac{9}{100} = 0.19$   
 (f)  $\frac{1}{10} + \frac{3}{100} = 0.13$

3.  
 (a)  $\frac{2}{10} + \frac{4}{100} = 0.24$   
 (b)  $\frac{2}{10} + \frac{8}{100} = 0.28$   
 (c)  $\frac{3}{10} + \frac{8}{100} = 0.38$   
 (d)  $1 + \frac{3}{10} + \frac{7}{100} = 1.37$   
 (e)  $1 + \frac{4}{10} + \frac{2}{100} = 1.42$   
 (f)  $2 + \frac{3}{10} + \frac{9}{100} = 2.39$   
 (g)  $2 + \frac{6}{10} + \frac{4}{100} = 2.64$   
 (h)  $3 + \frac{7}{10} + \frac{5}{100} = 3.75$   
 (i)  $3 + \frac{7}{10} + \frac{9}{100} = 3.79$   
 (j)  $4 + \frac{9}{10} + \frac{8}{100} = 4.98$

**PAGE 62**

1.  
 (a)  $1\frac{3}{10}\frac{7}{100}$   
 $1 \cdot 3 \quad 7$   
 (b)  $2\frac{1}{10}\frac{5}{100}$   
 $2 \cdot 1 \quad 5$   
 (c)  $3\frac{3}{10}\frac{3}{100}$   
 $3 \cdot 3 \quad 3$   
 (d)  $2\frac{1}{10}\frac{2}{100}$   
 $2 \cdot 1 \quad 2$   
 (e)  $0\frac{5}{10}\frac{8}{100}$   
 $0 \cdot 5 \quad 8$   
 (f)  $3\frac{4}{10}\frac{0}{100}$   
 $3 \cdot 4 \quad 0$   
 (g)  $3\frac{0}{10}\frac{9}{100}$   
 $3 \cdot 0 \quad 9$   
 (h)  $2\frac{4}{10}\frac{6}{100}$   
 $2 \cdot 4 \quad 6$

- Challenge: (a) e  
 (b) e  
 (c) 100

**PAGE 63**

(No answers needed)

**PAGE 64**

1. 3019  
 2.  $\frac{1}{4}$   
 3.  $\frac{1}{12}$   
 4. =  
 5. False  
 6. 16  
 7. 70  
 8. Colour 5 blocks  
 9. 60  
 10. Colour 7 segments  
 11. 35  
 12.  $\frac{6}{8}$   
 13.  $\frac{2}{3}$   
 14. 20  
 15. 35  
 16. €36  
 17. €20  
 18.  $\frac{9}{10}$   
 19. (1.03)  
 20. (2.47)

**PAGE 65**

1.  
 (a) True  
 (b) True  
 (c) false  
 (d) True  
 (e) False  
 (f) True  
 (g) True  
 (h) True  
 (i) False
2.  
 (a) False  
 (b) True  
 (c) True  
 (d) False  
 (e) False  
 (f) True  
 (g) True  
 (h) True

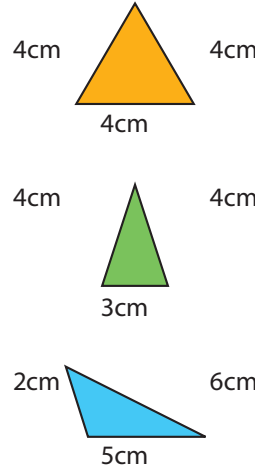
3.  
 (a) Yes  
 (b) Yes

Challenge: No

## PAGE 66

1.  
 (a) 5  
 (b) 5  
 (c) Obtuse  
 (d) 0
2.  
 (a) 8  
 (b) 8  
 (c) Obtuse  
 (d) 4
3.  
 (a) Octagon  
 (b) Octagon  
 (c) Pentagon  
 (d) Hexagon  
 (e) Hexagon  
 (f) Triangle  
 (g) Pentagon  
 (h) Hexagon  
 (i) Octagon  
 (j) Triangle

## PAGE 67

- 1.
- 
2.  
 (a) Equilateral  
 (b) Scalene  
 (c) Isosceles  
 (d) 3  
 (e) Scalene

3.  
 (a) Hexagon  
 (b) 6  
 (c) Equilateral

4. 27

## PAGE 68

1.  
 (a) False  
 (b) True  
 (c) True  
 (d) False  
 (e) True
3.  
 (a) Square  
 (b) Oval  
 (c) Rectangle  
 (d) Pentagon  
 (e) Rectangle  
 (f) Circle
4.  
 Path Shape Does it Tessellate?  
 (a) Green Parallelogram Yes  
 (b) Blue Semi-circle No  
 (c) Orange Pentagon Yes  
 (d) Yellow Rhombus Yes  
 (e) Pink Hexagon No

## PAGE 69

(No answers needed)

## PAGE 70

1.  
 (a) €0.29  
 (b) 107c  
 (c) €1.80  
 (d) 90c  
 (e) €0.08  
 (f) 9c
2.  
 (a) €3.58  
 (b) 630c  
 (c) €7.04  
 (d) 880c  
 (e) €9.78  
 (f) 900c

3.  
 (a) €3  
 (b) €3  
 (c) €4  
 (d) €6  
 (e) €9  
 (f) €9

4.

- (a) €2.80 + €2.20  
 €3.65 + €1.35  
 €1.64 + €3.36  
 €3.73 + €1.27  
 €2.58 + €2.42
- (b) €4.13 + 87c  
 €3.78 + 122c  
 €2.82 + €2.18  
 €3.34 + 166c  
 €1.37 + 363c
- (c) 356c + €1.44  
 €1.84 + 316c  
 €2.14 + 286c  
 228c + 272c  
 €3.86 + €1.14

5.

- (a) yo-yo  
 (b) spinning top  
 (c) rubik's cube  
 (d) whistle & tennis ball  
 (e) pencil  
 (f) tennis ball

## PAGE 71

1.  
 (a) (i) 220c  
 (ii) €2.20  
 (b) (i) 64c  
 (ii) €0.64  
 (c) (i) 135c  
 (ii) €1.35  
 (d) (i) 305c  
 (ii) €3.05  
 (e) (i) 120c  
 (ii) €1.20  
 (f) (i) 131c  
 (ii) €1.31

2.

- (a) €7.15  
 (b) €6.45  
 (c) €4.35  
 (d) €5.55  
 (e) €0.15  
 (f) €1.40

- (g) €3.35  
 (h) €2.30  
 (i) €4.50  
 (j) €3.65

3.

- (a) €0.52  
 (b) €1.73  
 (c) €3.37  
 (d) €2.66  
 (e) €0.82  
 (f) €1.58

4.

- (a) €1.35  
 (b) €3.30  
 (c) €2.52  
 (d) €4.71  
 (e) €2.66  
 (f) €3.62

Challenge: (a) €4.60  
 (b) €3.35  
 (c) €5.85  
 (d) €2.64  
 (e) €7.65

## PAGE 72

1. 9c, €0.19, €0.23, €0.50,  
 98c, €1.00, €1.01, 110c
2.  
 (a) €1, 50c, 20c, 20c, 10c  
 (b) 20c, 10c, 5c, 5c, 5c,  
 (c) 50c, 10c, 10c, 10c, 10c  
 (d) 10c, 5c, 2c, 2c, 2c,  
 (e) €1, 50c, 2c, 2c, 2c,  
 (f) €2, €1, 10c, 5c, 5c,  
 (g) 20c, 20c, 20c, 5c, 5c,  
 (h) €1, €1, 1c, 1c, 1c

3.

- (a) €1.00  
 (b) €0.99  
 (c) €0.90  
 (d) (60c + 70c)  
 (e) €5.05  
 (f) 602c

4.

- (a) €1.40  
 (b) €3.50  
 (c) €2.50  
 (d) €2.10

- (e) €3.00  
(f) Mary

5.  
(a) €5.50  
(b) €7.97  
(c) €6.10  
(d) €3.28  
(e) €9.99  
(f) €5.99

Challenge: €8.95

**PAGE 73**

1.  
(a) €6.32  
(b) €7.25  
(c) €77.06  
(d) €38.64

2.  
(a) €6.59  
(b) €37.09  
(c) €48.99  
(d) €54.89

3.  
(a) €2.75  
(b) €4.72  
(c) €12.39  
(d) €24.69

4.  
(a) €7.89  
(b) €6.45  
(c) €64.43  
(d) €86.15  
(e) €91.42  
(f) €83.37

**PAGE 74**

1. €9.56  
2. €19.47  
3. €61.48  
4. €77.88  
5. €67.58  
6. €62.68  
7. €48.98  
8. €3.66  
9. €6.25  
10. €62.68

Challenge: €53.10

**PAGE 75**

1.  
(a)  $(2 \times 3) \times 4$   
 $6 \times 4$   
 $= 24$

(b)  $(3 \times 4) \times 2$   
 $12 \times 2$   
 $= 24$

(c)  $(4 \times 3) \times 2$   
 $12 \times 2$   
 $= 24$

(d)  $(3 \times 2) \times 4$   
 $6 \times 4$   
 $= 24$

2.  
(a)  $(3 \times 5) \times 7$   
 $15 \times 7$   
 $= 105$

(b)  $(5 \times 7) \times 3$   
 $35 \times 3$   
 $= 105$

(c)  $(7 \times 3) \times 5$   
 $21 \times 5$   
 $= 105$

(d)  $(5 \times 3) \times 7$   
 $15 \times 7$   
 $= 105$

3.  
(a)  $(2 \times 4) \times 5$   
 $8 \times 5$   
 $= 40$

(b)  $(3 \times 4) \times 5$   
 $12 \times 5$   
 $= 60$

(c)  $(5 \times 6) \times 7$   
 $30 \times 7$   
 $= 210$

(d)  $(2 \times 6) \times 4$   
 $12 \times 4$   
 $= 48$

(e)  $(3 \times 5) \times 7$   
 $15 \times 7$   
 $= 105$

(f)  $(4 \times 5) \times 6$   
 $20 \times 6$   
 $= 120$

(g)  $(1 \times 8) \times 9$   
 $8 \times 9$   
 $= 72$

(h)  $(7 \times 0) \times 8$   
 $0 \times 8$   
 $= 0$

(i)  $(9 \times 2) \times 4$   
 $18 \times 4$   
 $= 72$

4.

(a) 170

(b) 380

(c) 560

(d) 630

(e) 850

(f) 900

5.

(a)  $21 \times 3 \times 10$   
 $63 \times 10$   
 $= 630$

(b)  $33 \times 3 \times 10$   
 $99 \times 10$   
 $= 990$

(c)  $47 \times 2 \times 10$   
 $94 \times 10$   
 $= 940$

**PAGE 76**

1.  
(a)  $\begin{array}{r} 43 \\ \times 18 \\ \hline 344 \\ + 430 \\ \hline 774 \end{array}$

(b)  $\begin{array}{r} 65 \\ \times 15 \\ \hline 325 \\ + 650 \\ \hline 975 \end{array}$

(c)  $\begin{array}{r} 54 \\ \times 18 \\ \hline 432 \\ + 540 \\ \hline 972 \end{array}$

(d)  $\begin{array}{r} 28 \\ \times 27 \\ \hline 196 \\ + 560 \\ \hline 756 \end{array}$

(e)  $\begin{array}{r} 35 \\ \times 25 \\ \hline 175 \\ + 700 \\ \hline 875 \end{array}$

2.

(a)  $\begin{array}{r} 54 \\ \times 19 \\ \hline 486 \\ + 540 \\ \hline 1026 \end{array}$

(b)  $\begin{array}{r} 62 \\ \times 16 \\ \hline 372 \\ + 620 \\ \hline 992 \end{array}$

(c)  $\begin{array}{r} 38 \\ \times 18 \\ \hline 304 \\ + 380 \\ \hline 684 \end{array}$

(d)  $\begin{array}{r} 72 \\ \times 19 \\ \hline 648 \\ + 720 \\ \hline 1368 \end{array}$

(e)  $\begin{array}{r} 37 \\ \times 26 \\ \hline 222 \\ + 740 \\ \hline 962 \end{array}$

(f)  $\begin{array}{r} 17 \\ \times 36 \\ \hline 102 \\ + 510 \\ \hline 612 \end{array}$

3.  $\begin{array}{r} 32 \\ \times 16 \\ \hline 192 \\ + 320 \\ \hline 512 \end{array}$

4.  $\begin{array}{r} 23 \\ \times 39 \\ \hline 207 \\ + 690 \\ \hline 897 \end{array}$

5.  $\begin{array}{r} 48 \\ \times 19 \\ \hline 432 \\ + 480 \\ \hline 912 \end{array}$

6. 
$$\begin{array}{r} 34 \\ \times 24 \\ \hline 136 \\ + 680 \\ \hline 816 \end{array}$$

**PAGE 77**

1.

(a) 
$$\begin{array}{r} 53 \\ \times 29 \\ \hline 477 \\ + 1060 \\ \hline 1537 \end{array}$$

(b) 
$$\begin{array}{r} 28 \\ \times 37 \\ \hline 196 \\ + 840 \\ \hline 1036 \end{array}$$

(c) 
$$\begin{array}{r} 72 \\ \times 45 \\ \hline 360 \\ + 2880 \\ \hline 3240 \end{array}$$

(d) 
$$\begin{array}{r} 81 \\ \times 57 \\ \hline 567 \\ + 4050 \\ \hline 4617 \end{array}$$

(e) 
$$\begin{array}{r} 49 \\ \times 35 \\ \hline 245 \\ + 1470 \\ \hline 1715 \end{array}$$

(f) 
$$\begin{array}{r} 78 \\ \times 39 \\ \hline 702 \\ + 2340 \\ \hline 3042 \end{array}$$

**Challenge 1:** 
$$\begin{array}{r} 59 \\ \times 46 \\ \hline 354 \\ + 2360 \\ \hline 2714 \end{array}$$

**Challenge 2:** 
$$\begin{array}{r} 75 \\ \times 63 \\ \hline 225 \\ + 4500 \\ \hline 4725 \end{array}$$

**PAGE 78**

**Level 1:**

(a) 42

(b) 40

(c) 27

(d) 32

(e) 49

**Level 2:**

(a)  $3 \times 8 = 8 \times 3$

(b)  $5 \times 7 = 7 \times 5$

(c)  $7 \times 6 = 6 \times 7$

(d)  $8 \times 9 = 9 \times 8$

**Level 3:**

(a) 310

(b) 570

(c) 630

(d) 780

(e) 800

(f) 960

**Level 4:**

(a) 34

(b) 60

(c) 78

(d) 98

(e) 96

(f) 99

**Level 5:**

(a) 72

(b) 148

(c) 392

(d) 616

(e) 756

(f) 576

**Level 6:**

(a) 720

(b) 2080

(c) 3750

(d) 6640

(e) 6790

**Level 7:**

(a) 408

(b) 1332

(c) 3596

(d) 4800

**Level 8:** 2688

**PAGE 79**

1. 1566

2. 558

3. 4214

4. 884

5. 2790

6. 3024

7. 611

**Challenge:** 1728

**PAGE 80**

(a)  $(10 \div 2) + (6 \div 2)$   
 $5 + 3 = 8$

(b)  $(30 \div 3) + (6 \div 3)$   
 $10 + 2 = 12$

(c)  $(40 \div 4) + (8 \div 4)$   
 $10 + 2 = 12$

(d)  $(50 \div 5) + (5 \div 5)$   
 $12 + 1 = 13$

(e)  $(30 \div 3) + (15 \div 3)$   
 $10 + 5 = 15$

(f)  $(40 \div 4) + (24 \div 4)$   
 $10 + 6 = 16$

**Challenge:** 14

**PAGE 81**

1.

(a)  $(60 \div 6) + (24 \div 6)$   
 $10 + 4$   
 $= 14$

(b)  $(60 \div 5) + (15 \div 5)$   
 $12 + 3$   
 $= 15$

(c)  $(60 \div 4) + (16 \div 4)$   
 $15 + 4$   
 $= 19$

2.

(a)  $(70 \div 7) + (21 \div 7)$   
 $10 + 3$   
 $= 13$

(b)  $(80 \div 8) + (24 \div 8)$   
 $10 + 3$   
 $= 13$

3.

(a)  $(40 \div 4) + (16 \div 4)$   
 $10 + 4$   
 $= 14$

(b)  $(72 \div 6) + (6 \div 6)$   
 $12 + 1$   
 $= 13$

(c)  $(50 \div 5) + (40 \div 5)$   
 $10 + 8$   
 $= 18$

(d)  $(60 \div 3) + (9 \div 3)$   
 $20 + 3$   
 $= 23$

(e)  $(70 \div 7) + (28 \div 7)$   
 $10 + 4$   
 $= 14$

(f)  $(80 \div 8) + (32 \div 8)$   
 $10 + 4$   
 $= 14$

4.

(a) 14 R2

(b) 16 R2

(c) 14 R3

(d) 12 R5

(e) 14 R4

(f) 17 R3

(g) 12 R6

(h) 12 R2

**Challenge:** 13 R3

**PAGE 82**

1.

(a) 15 R2

(b) 13 R3

(c) 13 R2

(d) 13 R2

(e) 11 R4

(f) 13 R5

2.

(a) 28 R2

(b) 14 R3

(c) 15 R2

(d) 32 R1

(e) 15 R3

(f) 16 R1

(g) 40 R1

(h) 15 R4

(i) 15 R5

(j) 17 R2

(k) 11 R6

(l) 15 R4

3. 19 R2

**Challenge:** 63 R2

**PAGE 83:**

- 13 carrot sticks R3
- 5 corn cobs R3
- 14 potatoes cubes R1
- 7 pineapple rings R1
- 12 Lettuce leaves R3

- 1. 16
- 2. 14
- 3. 17

Challenge: 11

**PAGE 84**

- 1. Rhombus
- 2. Hexagon
- 3. Seventy
- 4. 3.79
- 5. 7.23
- 6. €2.45
- 7. €15.75
- 8. Parallelogram
- 9. Octagon
- 10. Horizontal
- 11. false
- 12. 9 R4
- 13.  $(30 \div 3) + (18 \div 3) = 16$
- 14.  $(70 \div 7) + (21 \div 7) = 13$
- 15.  $(90 \div 9) + (36 \div 9) = 14$
- 16. Pentagon
- 17.  $\frac{3}{100}$
- 18. 840
- 19. €9.50
- 20. 7.07

**PAGE 85**

- 1.
  - (a)  $3 + \frac{4}{10} + \frac{6}{100}$
  - (b)  $8 + \frac{1}{10} + \frac{9}{100}$
  - (c)  $6 + \frac{6}{10} + \frac{6}{100}$
  - (d)  $0 + \frac{0}{10} + \frac{9}{100}$
  - (e)  $0 + \frac{4}{10} + \frac{7}{100}$
  - (f)  $3 + \frac{4}{10} + \frac{0}{100}$
  - (g)  $5 + \frac{0}{10} + \frac{2}{100}$
- 3.
  - (a)  $\frac{1}{10} = 0.1$
  - (b)  $\frac{15}{100} = 0.15$
  - (c)  $\frac{24}{100} = 0.24$
  - (d)  $\frac{38}{100} = 0.38$
  - (e)  $\frac{13}{100} = 0.13$

**PAGE 86**

(a)

0.1	$\frac{1}{10}$	A
3.9	$3 \frac{9}{10}$	F
5.5	$5 \frac{5}{10}$	H
2.4	$2 \frac{4}{10}$	E
7.7	$7 \frac{7}{10}$	I
1.7	$1 \frac{7}{10}$	D
8.3	$8 \frac{3}{10}$	J
0.5	$\frac{5}{10}$	B
1.0	$\frac{10}{10}$	C
4.2	$4 \frac{2}{10}$	G

(b)

0.01	$\frac{1}{100}$	K
0.5	$\frac{5}{10}$	Q
0.1	$\frac{1}{10}$	M
0.99	$\frac{99}{100}$	T
0.39	$\frac{39}{100}$	P
0.31	$\frac{31}{100}$	O
0.84	$\frac{84}{100}$	S
0.05	$\frac{5}{100}$	L
0.64	$\frac{64}{100}$	R
0.17	$\frac{17}{100}$	N

- 2.
  - (a) (i) B  
(ii) C
  - (b) (i) D  
(ii) C
  - (c) (i) A  
(ii) C
  - (d) (i) D  
(ii) C

Challenge: (a) x 1st space  
y 3rd space  
(b) x 1st space  
y 3rd space

**PAGE 87**

- 1.
  - (a)  $\frac{1}{10}$
  - (b) 90
  - (c) 40
  - (d)  $\frac{6}{10}$
  - (e)  $\frac{9}{100}$
  - (f) 10
  - (g)  $\frac{9}{100}$
  - (h) 3000

- 2.
  - (a) 7777.77
  - (b) 7777.77
  - (c) 7777.77
  - (d) 7777.77
  - (e) 7777.77
  - (f) 7777.77
  - (g) 7777.77
  - (h) 7777.77
  - (i) 7777.77

- 3.
  - (a) 345.4, 414.74, 4410.44
  - (b) 36.9, 333.59, 0.38
  - (c) 829.16, 1625.6, 361.66
  - (d) 626.65, 4628.56, 56.68
  - (e) 5225.58, 3255.55, 85.65
  - (f) 8240.28, 86.35, 383.26
  - (g) 4.42, 122.32, 2425.62

**PAGE 88**

- 1.
  - (a) 0.3
  - (b) 0.7
  - (c) 0.5
  - (d) 0.43
  - (e) 0.58
  - (f) 0.08

- 2.
  - (a) 600
  - (b) 0.08
  - (c) 0.07
  - (d) 0.300
  - (e) 26.0
  - (f) 1048
  - (g) 0.2
  - (h) 0.4
  - (i) 8000
  - (j) 6
  - (k) 5
  - (l)  $\frac{8}{10}$

- (m) 35.00
- (n)  $12 \frac{3}{100}$
- (o) 7.5
- (p)  $\frac{2}{100}$

**PAGE 89**

- 1.
  - (a) (i) 0.62, 0.9, 0.58, 0.07  
(ii) 0.07, 0.58, 0.62, 0.9
  - (b) (i) 0.47, 0.58, 0.25, 0.67  
(ii) 0.27, 0.47, 0.58, 0.67

- 2.
  - (a) 0.5
  - (b) 0.09
  - (c) 0.88
  - (d) 0.41
  - (e) 1
  - (f) 0.6
  - (g) 0.43
  - (h) 8.5
- 3.
  - (a) 0.7
  - (b) 0.03
  - (c) 0.50
  - (d) 0.05
  - (e) 0.33
  - (f) 0.6000
  - (g) 32.3
  - (h) 1.1

**PAGE 90**

- 1.
  - (a) 40.1m, 40.01m, 39.9m, 39.09m, 38.99m
  - (b) 50.04m, 52.3m, 52.5m, 58.38m, 58.43m
- 4. 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8
- 0.93, 0.94, 0.95, 0.96, 0.97, 0.98, 0.99, 1.0, 1.1, 1.2, 1.3
- 7.86, 7.85, 7.84, 7.83, 7.82, 7.81, 7.80, 7.79, 7.78, 7.77, 7.76

Challenge: (a) 4809  
98.40  
(b) 86.21  
(c) 9.53  
(d) 75.42  
(e) 9864.32

**PAGE 93**

- 1.
  - (a) (i) 20 to 6  
(ii) 5:40
  - (b) (i) 10 to 6  
(ii) 5:50
  - (c) (i) 5 past 6  
(ii) 6:05

- 2.**  
**(a)** (i) 25 to 12  
 (ii) 11:35  
**(b)** (i) 20 to 8  
 (ii) 7:40  
**(c)** (i) quarter to 11  
 (ii) 10:45  
**(d)** (i) 5 past 1  
 (ii) 1:05

- 3.**  
**(a)** (i) quarter past 8  
 (ii) 8:15  
**(b)** (i) 2 o'clock  
 (ii) 2:00  
**(c)** (i) 10 to 7  
 (ii) 6:50  
**(d)** (i) 20 to 12  
 (ii) 11:40

- 4.**  
 (i)  $\frac{1}{4}$  past 7  
 (ii) 7:15  
 (i) 5 to 3  
 (ii) 2:55  
 (i) 20 past 12  
 (ii) 12:20  
 (i) 1 o'clock  
 (ii) 1:00  
 (i) 10 past 4  
 (ii) 4:10

- 5.**  
 (i) 20 to 1  
 (ii) 12:40  
 (i) 10 to 6  
 (ii) 5:50  
 (i) 7 o'clock  
 (ii) 7:00  
 (i)  $\frac{1}{4}$  past 10  
 (ii) 10:15  
 (i) 5 past 12  
 (ii) 12:05

## PAGE 94

- 1.**  
 (i) 15 minutes  
 (ii) 3 minutes  
 (iii) 3 minutes

- 2. 30**  
 (i) 24 minutes past 8 or 8:24  
 (ii) 20 minutes past 8 or 8:20  
 (iii) 17 minutes past 8 or 8:17

- (iv) 9 minutes past 8 or 8:09  
 (v) 29 minutes past 8 or 8:29

- 3. 60 minutes**  
 (i) 18 minutes to 5 or 4:42  
 (ii) 24 minutes to 5 or 4:36  
 (iii) 26 minutes past 4 or 4:26  
 (iv) 9 minutes to 5 or 4:51  
 (v) 1 minute to 5 or 4:59

- 4.**  
**(a)** (i) 27 minutes past 11  
 (ii) 11:27  
**(b)** (i) 29 minutes to 2  
 (ii) 1:31  
**(c)** (i) 11 minutes past 8  
 (ii) 8:11  
**(d)** (i) 13 minutes to 12  
 (ii) 11:47

- 5.**  
**(a)** (i) 11:13  
 (ii) 11:41  
**(b)** (i) 1:17  
 (ii) 1:45  
**(c)** (i) 7:57  
 (ii) 8:25  
**(d)** (i) 11:33  
 (ii) 12:01

## PAGE 95

- 1.**  
 (i) 5 to 6  
 (ii) 5:55  
 (i)  $\frac{1}{4}$  past 6  
 (ii) 6:15  
 (i) 28 minutes past 6  
 (ii) 6:28  
 (i) 3 minutes to 7  
 (ii) 6:57  
 (i) 3 minutes past 7  
 (ii) 7:03

- 2. 8:08**  
 8:42  
 9:15  
 11:11  
 11:52  
 12:18

## 3. LORCAN

- 4.**  
**No 1** (i) 11:43  
 (ii) 17 to 12

- No 2** (i) 11:55  
 (ii) 5 to 12

- No 3** (i) 12:07  
 (ii) 7 past 12

- No 4** (i) 12:19  
 (ii) 19 past 12

- No 5** (i) 12:31  
 (ii) 29 to 1

- No 6** (i) 12:43  
 (ii) 17 to 1

- 5. 8:45**  
 9:53  
 10:08  
 11:06

**Challenge:** Ann by 6 minutes

## PAGE 96

	Faces	Edges	Vertices
A	6	12	8
B	6	12	8
C	3	2	0
D	1	0	0
E	2	1	1
F	5	8	5
G	5	9	6

## PAGE 97

**1.**

	A	B	C	D
Faces	4	5	6	7
Edges	6	8	10	12
Vertices	4	5	6	7

**2.**

- (a)** Square  
**(b)** Pentagonal  
**(c)** Hexagonal  
**(d)** Triangular

**3.**

- (a)** Triangular Pyramid  
**(b)** Hexagonal Pyramid

## PAGE 98

**1.**

- (a)** 5 faces  
**(b)** 9 edges  
**(c)** 6 vertices  
**(d)** Flat  
**(e)** ---

- 2.**  
**(a)** True  
**(b)** False  
**(c)** True  
**(d)** False  
**(e)** True  
**(f)** True

## PAGE 99

- (a)** Cube  
**(b)** Square pyramid  
**(c)** Triangular prism  
**(d)** Pentagonal pyramid  
**(e)** Triangular pyramid

## PAGE 100

- 1. 30**  
**2. 3005**  
**3. 6-97**  
**4. 8-09**  
**5. €25-50**  
**6. 8:27**  
**7. 10:02**  
**8. €18**  
**9. 32**  
**10. Square**  
**11. 5:57**  
**12. 6:45**  
**13. 6900**  
**14. 77 minutes**  
**15. 60**  
**16.  $\frac{7}{100}$**   
**17. 14-2**  
**18. 5**  
**19. Cylinder**  
**20. €12-20**

## PAGE 101

**1.**

- (a)**  $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   
 $\frac{1}{4}$   $\frac{1}{4}$   $\frac{1}{4}$   $\frac{1}{4}$   
 $\frac{1}{2}$   $\frac{1}{2}$

- (b)**  $\frac{2}{4}$ ,  $\frac{4}{8}$

- (c)** (i)  $\frac{4}{8}$   
 (ii)  $\frac{6}{8}$   
 (iii)  $\frac{4}{4}$  or  $\frac{2}{2}$

**2.**

- (b)** (i)  $\frac{1}{5} = \frac{2}{10}$   
 (ii)  $\frac{2}{5} = \frac{4}{10}$   
 (iii)  $\frac{5}{10} = \frac{1}{2}$

- (iv)  $\frac{6}{10} = \frac{3}{5}$
- (v)  $\frac{8}{10} = \frac{4}{5}$
- (vi)  $\frac{10}{10} = \frac{5}{5}$  or  $1\frac{1}{1}$

- 3.**
- (b) (i)  $\frac{2}{12} = \frac{1}{6}$
  - (ii)  $\frac{3}{12} = \frac{1}{4}$
  - (iii)  $\frac{4}{12} = \frac{1}{3}$  or  $\frac{2}{6}$
  - (iv)  $\frac{1}{2} = \frac{2}{4}$  or  $\frac{3}{6}$
  - (v)  $\frac{2}{3} = \frac{4}{6}$  or  $\frac{8}{12}$
  - (vi)  $\frac{3}{6} = \frac{1}{2}$
  - (vii)  $\frac{10}{12} = \frac{5}{6}$
  - (viii)  $\frac{6}{6} = \frac{12}{12}$

- 4.**
- (a)  $\frac{5}{10} = \frac{6}{12}$
  - (b)  $\frac{2}{3} > \frac{1}{2}$
  - (c)  $\frac{6}{8} = \frac{9}{12}$
  - (d)  $\frac{3}{4} < \frac{7}{8}$
  - (e)  $\frac{2}{3} = \frac{8}{12}$
  - (f)  $\frac{9}{12} = \frac{3}{4}$

- 5. Madge
- 6. Laura
- 7. apple
- 8.  $\frac{5}{8}$

Challenge:  $\frac{5}{12}$

**PAGE 102**

- 1.**
- (a)  $\frac{2}{4}$  or  $\frac{1}{2}$
  - (b)  $\frac{4}{8}$  or  $\frac{2}{4}$  or  $\frac{1}{2}$
  - (c)  $\frac{1}{2}$
  - (d)  $\frac{1}{4}$
  - (e)  $\frac{1}{2}$
  - (f)  $\frac{1}{4}$

- 2.**
- (a)  $\frac{2}{8}$  or  $\frac{1}{4}$
  - (b)  $\frac{1}{4}$
  - (c)  $\frac{4}{16}$  or  $\frac{1}{4}$
  - (d)  $\frac{6}{24}$  or  $\frac{1}{4}$
  - (e)  $\frac{1}{4}$

Challenge:  $\frac{20}{80}$  or  $\frac{2}{8}$  or  $\frac{1}{4}$

**PAGE 103**

- 1.**
- (a)  $\frac{2}{16}$  or  $\frac{1}{8}$
  - (b)  $\frac{5}{40}$  or  $\frac{1}{8}$
  - (c)  $\frac{10}{80}$  or  $\frac{1}{8}$
  - (d)  $\frac{6}{48}$  or  $\frac{1}{8}$

- 2.**
- (a)  $\frac{2}{6}$  or  $\frac{1}{3}$
  - (b)  $\frac{4}{12}$  or  $\frac{1}{3}$
  - (c)  $\frac{2}{10}$  or  $\frac{1}{5}$
  - (d)  $\frac{3}{12}$  or  $\frac{1}{4}$

- 3.**
- (a)  $\frac{1}{12}$
  - (b)  $\frac{9}{18}$  or  $\frac{1}{2}$
  - (c)  $\frac{5}{50}$  or  $\frac{1}{10}$
  - (d)  $\frac{3}{18}$  or  $\frac{1}{6}$
  - (e)  $\frac{8}{24}$  or  $\frac{1}{3}$
  - (f)  $\frac{5}{50}$  or  $\frac{1}{10}$

- 4.  $\frac{1}{10}$
- 5.  $\frac{1}{9}$
- 6.  $\frac{1}{5}$
- 7.  $\frac{1}{6}$

Challenge: (i)  $\frac{1}{2}$  (ii)  $\frac{1}{3}$  (iii)  $\frac{1}{6}$

**PAGE 104**

- 1.**
- (a)  $\frac{1}{2}$ ,  $\frac{2}{2}(1)$ ,  $\frac{3}{2}(1\frac{1}{2})$ ,  $\frac{4}{2}(2)$ ,  $\frac{5}{2}(2\frac{1}{2})$ ,  $\frac{6}{2}(3)$ ,  $\frac{7}{2}(3\frac{1}{2})$ ,  $\frac{8}{2}(4)$
  - (b)  $\frac{1}{4}$ ,  $\frac{2}{4}(1\frac{1}{2})$ ,  $\frac{3}{4}$ ,  $\frac{4}{4}(1)$ ,  $\frac{5}{4}(1\frac{1}{4})$ ,  $\frac{6}{4}(1\frac{1}{2})$ ,  $\frac{7}{4}(1\frac{3}{4})$ ,  $\frac{8}{4}(2)$ ,  $\frac{9}{4}(2\frac{1}{4})$
  - (c)  $\frac{1}{10}$ ,  $\frac{2}{10}(\frac{1}{5})$ ,  $\frac{3}{10}$ ,  $\frac{4}{10}(\frac{2}{5})$ ,  $\frac{5}{10}(\frac{1}{2})$ ,  $\frac{6}{10}(\frac{3}{5})$ ,  $\frac{7}{10}$ ,  $\frac{8}{10}(\frac{4}{5})$ ,  $\frac{9}{10}$ ,  $\frac{10}{10}(1)$ ,  $\frac{11}{10}$

- 2.**
- (a) 20
  - (b) 24
  - (c) 27

- 3.**
- (a)  $\frac{1}{2}$
  - (b)  $\frac{1}{3}$
  - (c)  $\frac{1}{4}$
  - (d)  $\frac{1}{6}$
  - (e)  $\frac{1}{8}$

- 4.**
- (a) 12
  - (b) 16
  - (c) 9

- (d) 12
- (e) 15
- (f) 25
- (g) 15
- (h) 16

- 5.  $\frac{3}{10}$
- 6. 5
- 7. 32
- 8. (i)  $\frac{1}{2}$
- (ii)  $\frac{1}{3}$
- (iii)  $\frac{1}{6}$

Challenge: €10

**PAGE 105**

- 1.**
- (a) €7.11
  - (b) €14.72
  - (c) €14.80
  - (d) €32.13
  - (e) €34.65

- 2.**
- (a) €44.58
  - (b) €41.04
  - (c) €76.80
  - (d) €61.25
  - (e) €75.60
  - (f) 66.87
  - (g) €70.00
  - (h) €57.60

- 3. €34.20
- 4. €61.44
- 5. €60.55
- 6. €74.61

Challenge: €3.50

**PAGE 106**

- 1.**
- (a) €2.25
  - (b) €2.33
  - (c) €1.46
  - (d) €1.22
  - (e) €1.39

- 2.**
- (a) sticky ribs €2.49
  - (b) chilli chicken €3.17

- (c) soup €1.75
- (d) corn on cob €0.57
- (e) Salad €1.52
- (f) still water €1.15
- (g) chilli chicken

- 3.**
- (a) 46c
  - (b) €1.93
  - (c) 64c
  - (d) 37c
  - (e) €1.28

Challenge: (a) €1.24  
(b) €3.72

**PAGE 107**

- 1.**
- (a) €18.25
  - (b) €20.25
  - (c) €59.10
  - (d) €33.60
  - (e) €38.10

- 2.**
- (a) €68.95
  - (b) €47.25
  - (c) €50.40

- 3.**
- (a) €32.40
  - (b) €17.60

- 4.** €6.40

Challenge: (a) €10.55  
(b) €1.35

**PAGE 108**

- 1. €2.92
- 2. €3.84
- 3. €5.75
- 4. €5.82
- 5. €3.54
- 6. (i) (a) €2.38  
(b) €2.56  
(c) €1.87  
(d) €1.49



6. (ii) (a) €7.62  
(b) €7.44  
(c) €8.13  
(d) €8.51

7.  
(a) €5.31  
(b) €4.17  
(c) €11.70  
(d) €7.47  
(e) €2.76

8.  
(i) €10.44  
(ii) €2.39

Challenge: (a) €2.76  
(b) €2.07

## PAGE 109

1. (i) €10.00  
(ii) €9.30  
2. (i) €14.00  
(ii) €3.48  
3. (i) €2.50  
(ii) €2.38  
4. (i) €3.00  
(ii) €2.70  
5. (i) €3.00  
(ii) €2.88  
6.

	Price	Less	Sale Price
(a)	€7.25	€1.45	€5.80
(b)	€9.65	€1.93	€7.72
(c)	€8.90	€1.78	€7.12
(d)	€6.35	€1.27	€5.08
(e)	€9.95	€1.99	€7.96

7. (i) Evan  
(ii) €7.64

8. €17.32

Challenge: (a) €68.55  
(b) €11.45

## PAGE 110

1.  
(a) €12.69  
€3.85  
+ €15.85  
€32.39

- (b) €8.59  
€15.85  
+ €3.85  
€28.29

- (c) €8.70  
€12.69  
+ €6.95  
€28.34

2. €52.20  
3. €62.55  
4. €68.72  
5. €23.05  
6. €95.04  
7. €11.46  
8. Football  
9. €2.69  
10. €2.46

Challenge: Skateboard

## PAGE 111

1.  
(a) 9cm  
(b) 7cm  
(c) 11cm  
(d) 2cm  
(e) 5cm  
(f) 3cm  
(g) D  
(h) C  
(i) 8cm  
(j) A  
(k) 37cm  
(l) 27cm

2.  
(a) 100cm  
(b) 50cm  
(c) 25cm  
(d) 75cm  
(e) 10cm  
(f) 10cm  
(g) 70cm  
(h) 90cm  
(i) 30cm  
(j) 50cm  
(k) 100cm  
(l) 20cm  
(m) 200cm  
(n) 350cm  
(o) 270cm  
(p) 460cm

Challenge: (i) 250cm  
(ii) 2m 50cm

## PAGE 112

1.  
(a)  $20\text{cm} = \frac{2}{10}\text{m} = 0.2\text{m}$   
(b)  $80\text{cm} = \frac{8}{10}\text{m} = 0.8\text{m}$   
(c)  $70\text{cm} = \frac{7}{10}\text{m} = 0.7\text{m}$   
(d)  $90\text{cm} = \frac{9}{10}\text{m} = 0.9\text{m}$   
(e)  $23\text{cm} = \frac{23}{100}\text{m} = 0.23\text{m}$   
(f)  $46\text{cm} = \frac{46}{100}\text{m} = 0.46\text{m}$   
(g)  $78\text{cm} = \frac{78}{100}\text{m} = 0.78\text{m}$   
(h)  $8\text{cm} = \frac{8}{100}\text{m} = 0.08\text{m}$   
(i)  $13\text{cm} = \frac{13}{100}\text{m} = 0.13\text{m}$   
(j)  $30\text{cm} = \frac{3}{10}\text{m} = 0.3\text{m}$   
(k)  $100\text{cm} = \frac{10}{10}\text{m} = 1.0\text{m}$   
(l)  $9\text{cm} = \frac{9}{100}\text{m} = 0.09\text{m}$

2.  
(a)  $136\text{cm} = 1\text{m } 36\text{cm} = 1\frac{36}{100}\text{m} = 1.36\text{m}$   
(b)  $182\text{cm} = 1\text{m } 82\text{cm} = 1\frac{82}{100}\text{m} = 1.82\text{m}$   
(c)  $117\text{cm} = 1\text{m } 17\text{cm} = 1\frac{17}{100}\text{m} = 1.17\text{m}$   
(d)  $190\text{cm} = 1\text{m } 90\text{cm} = 1\frac{9}{10}\text{m} = 1.9\text{m}$   
(e)  $106\text{cm} = 1\text{m } 6\text{cm} = 1\frac{6}{100}\text{m} = 1.06\text{m}$   
(f)  $254\text{cm} = 2\text{m } 54\text{cm} = 2\frac{54}{100}\text{m} = 2.54\text{m}$   
(g)  $250\text{cm} = 2\text{m } 50\text{cm} = 2\frac{5}{10}\text{m} = 2.5\text{m}$   
(h)  $320\text{cm} = 3\text{m } 20\text{cm} = 3\frac{2}{10}\text{m} = 3.2\text{m}$   
(i)  $300\text{cm} = 3\text{m } 00\text{cm} = 3\text{m} = 3.0\text{m}$   
(j)  $475\text{cm} = 4\text{m } 75\text{cm} = 4\frac{75}{100}\text{m} = 4.75\text{m}$

## PAGE 113

1.  
(a) 6m 20cm  
(b) 7m 14cm  
(c) 6m 19cm  
(d) 6m 48cm  
(e) 8m 03cm  
(f) 8m 50cm
2.  
(a) 2m 89cm  
(b) 3m 72cm  
(c) 0m 39cm  
(d) 2m 92cm

- (e) 1m 48cm  
(f) 4m 80cm

## 3.

- (a)  $3.62\text{m} + 1.52\text{m} = 5.14\text{m}$   
(b)  $2.84\text{m} + 2.41\text{m} = 5.25\text{m}$   
(c)  $3.16\text{m} + 4.86\text{m} = 8.02\text{m}$   
(d)  $4.26\text{m} + 2.9\text{m} = 7.16\text{m}$   
(e)  $5.3\text{m} + 1.81\text{m} = 7.11\text{m}$   
(f)  $3.99\text{m} + 1.01\text{m} = 5.00\text{m}$   
(g)  $5.62\text{m} + 2.25\text{m} = 7.87\text{m}$   
(h)  $3.07\text{m} + 1.39\text{m} = 4.46\text{m}$   
(i)  $2.75\text{m} + 4.9\text{m} = 7.65\text{m}$

## 4.

- (a)  $7.85\text{m} - 3.26\text{m} = 4.59\text{m}$   
(b)  $5.32\text{m} - 1.51\text{m} = 3.81\text{m}$   
(c)  $6.19\text{m} - 4.3\text{m} = 1.89\text{m}$   
(d)  $8.50\text{m} - 3.22\text{m} = 5.28\text{m}$   
(e)  $6.15\text{m} - 3.47\text{m} = 2.68\text{m}$   
(f)  $9.03\text{m} - 5.11\text{m} = 3.92\text{m}$   
(g)  $5.03\text{m} - 1.52\text{m} = 3.51\text{m}$   
(h)  $6.75\text{m} - 2.86\text{m} = 3.89\text{m}$   
(i)  $3.07\text{m} - 2.70\text{m} = 0.37\text{m}$

## 5.

m	cm
3	62
- 1	68
1	94

## 6.

m	cm
2	63
+ 1	50
4	13

## PAGE 114

### 1.

- (a)  $144\text{cm} \rightarrow 1.44\text{m}$   
(b)  $125\text{cm} \rightarrow 1.25\text{m}$   
(c)  $224\text{cm} \rightarrow 2.24\text{m}$   
(d)  $138\text{cm} \rightarrow 1.38\text{m}$   
(e)  $208\text{cm} \rightarrow 2.08\text{m}$   
(f)  $234\text{cm} \rightarrow 2.34\text{m}$

### 2.

- (a) 2.31m  
(b) 2.16m  
(c) 5.04m  
(d) 1.24m  
(e) 128m  
(f) 105m



- (g) 846m
- (h) 322m
- (i) 4.5m
- (j) 4.5m
- (k) 91cm
- (l) 56cm

- 3.**
- (a) 13cm
  - (b) 26cm
  - (c) 16cm
  - (d) 14m
  - (e) 18m
  - (f) 48m

- 4.**
- (a) 43cm
  - (b) 23cm
  - (c) 14cm
  - (d) 29cm
  - (e) 21cm
  - (f) 17cm
  - (g) 12cm
  - (h) 16cm
  - (i) 19cm
  - (j) 14cm
  - (k) 11cm
  - (l) 9cm

- 5. 14cm
- 6. 558m

**Challenge:** 6.88m

**PAGE 115**

- (a) 0.7 or  $\frac{7}{10}$
- (b) 0.8 or  $\frac{8}{10}$
- (c) 0.6 or  $\frac{6}{10}$

- 1.**
- 0.1 → 0.9
  - 0.5 → 0.5
  - 0.2 → 0.8
  - 0.6 → 0.4
  - 0.7 → 0.3

- 2.**
- (a) 1.1
  - (b) 1.5
  - (c) 1.1
  - (d) 1.1
  - (e) 1.0
  - (f) 1.7

- 3.**
- (a) 3.9
  - (b) 8.8
  - (c) 10.1
  - (d) 6.1
  - (e) 7.2
  - (f) 7.5

**PAGE 116**

- 1.**
- (a) 6.26
  - (b) 38.79
  - (c) 17.83

- 2.**
- (a) 10.97
  - (b) 34.87
  - (c) 9.99
  - (d) 79.97

- 3.**
- (a) 13.09
  - (b) 45.62
  - (c) 74.48
  - (d) 47.97

- 4.** Estimate: €23  
Cost: €22.90

**Challenge:** 37.2km

**PAGE 117**

- 1.**
- (a) 3.7
  - (b) 7.11
  - (c) 4.15
  - (d) 21.96

- 2.**
- (a) 4.26
  - (b) 2.37
  - (c) 2.62
  - (d) 4.55

- 3.**
- (a) 3.14
  - (b) 4.62
  - (c) 11.96
  - (d) 21.86

- 4.** 9.16m

**Challenge:** 141cm

**PAGE 118**

- 1.**
- (a) 0.3
  - (b) 0.5
  - (c) 0.4
  - (d) 0.8
  - (e) 0.9
  - (f) 0.8
  - (g) 0.6

- 2.**
- (a) 12.3
  - (b) 13.05
  - (c) 32.20
  - (d) 7.8
  - (e) 64.8
  - (f) 8.11
  - (g) 41.85
  - (h) 4.2

- 3.**
- (a) 10.4
  - (b) 18.9
  - (c) 32.4
  - (d) 53.5
  - (e) 36.9
  - (f) 135.0
  - (g) 205.6

- 4.**
- (a) 2.10
  - (b) 6.03
  - (c) 12.36
  - (d) 12.84
  - (e) 30.45
  - (f) 45.36
  - (g) 75.87

**PAGE 119**

- 1.**
- (a) 2.2
  - (b) 3.4
  - (c) 3.3
  - (d) 2.1
  - (e) 2.2
  - (f) 1.2

- 2.**
- (a) 8.4
  - (b) 4.3
  - (c) 5.2
  - (d) 6.1
  - (e) 6.1
  - (f) 8.1

- 3.**
- (a) 2.08
  - (b) 2.09
  - (c) 1.07
  - (d) 1.08
  - (e) 1.09
  - (f) 0.71

- 4.**
- (a) 3.2
  - (b) 3.1
  - (c) 9.1
  - (d) 31.2
  - (e) 3.12
  - (f) 3.09

- 5.**
- (a)  $4 \overline{)5.00}$   
      1.25
  - (b)  $5 \overline{)28.0}$   
      5.6
  - (c)  $2 \overline{)37.0}$   
      18.5
  - (d)  $6 \overline{)45.0}$   
      7.5
  - (e)  $6 \overline{)69.0}$   
      11.5

- 6.** €1.15

**Challenge:** 15.3m

**PAGE 120**

- 1.** 11.8, 9.61, 29.2, 40.50, 29.16  
(a) R, I, G, H, T
- 2.** 15.8, 20.98, 51.10, 20.98, 11.80  
(b) N, E, V, E, R
- 3.** 40.5, 1.9, 10.11, 20.98  
(c) H, O, M, E
- 4.** 39.2, 1.90, 11.8, 10.11  
(d) W, O, R, M

5. 39:2, 1:9, 11:80, 2:9, 10:7  
(e) W, O, R, D, S

6. (f) 20:98 E  
15:80 N  
2:90 D

7. (g) 1:90 O  
15:80 N  
20:98 E

- (a) RIGHT  
(b) NEVER  
(c) HOME  
(d) WORM  
(e) WORDS  
(f) END  
(g) ONE

## PAGE 121

1. 38-80  
2.  $\frac{7}{12}$   
3. 14  
4. 150cm  
5. Shape 1  
6.  $\frac{4}{6}$   
7. 70cm  
8. 78 mins  
9. 36-09  
10.  
(a) 5  
(b) 8  
(c) 5  
  
11. 32-87  
12. 4  
13.  $(70 \div 7) + (28 \div 7)$   
 $10 + 4 = 14$   
14. 0  
15. 9 R8  
16. 30  
17. 8000  
18. 25 mins  
19. 162 minutes  
20.  $\frac{3}{8}$

## PAGE 122

(No answers needed)

## PAGE 123

1.  
 $4 \times 9 = 36 \rightarrow 3 + 6 = 9$   
 $5 \times 9 = 45 \rightarrow 4 + 5 = 9$   
 $6 \times 9 = 54 \rightarrow 5 + 4 = 9$   
 $7 \times 9 = 63 \rightarrow 6 + 3 = 9$   
 $8 \times 9 = 72 \rightarrow 7 + 2 = 9$   
 $9 \times 9 = 81 \rightarrow 8 + 1 = 9$   
 $10 \times 9 = 90 \rightarrow 9 + 0 = 9$

2.  
(a) 21, 32, 43, 54, 65, 76, 87, 98  
(b) 31, 42, 53, 44, 35, 46, 57, 48, 39  
(c) 61, 62, 72, 73, 64, 65, 75, 76, 67, 68, 78

3.  
(a) even  
(b) even  
(c) odd  
(d) even  
(e) odd  
(f) odd  
(g) even  
(h) even  
(i) odd  
(j) even

4.  
(a)  $9 + 6 = 15$   
 $19 + 6 = 25$   
 $29 + 6 = 35$   
 $39 + 6 = 45$   
 $49 + 6 = 55$   
 $59 + 6 = 65$   
 $69 + 6 = 75$   
 $79 + 6 = 85$

- (b)  $4 + 8 = 12$   
 $14 + 8 = 22$   
 $24 + 8 = 32$   
 $34 + 8 = 42$   
 $44 + 8 = 52$   
 $54 + 8 = 62$   
 $64 + 8 = 72$   
 $74 + 8 = 82$   
Rule: Add 8

- (c)  $27 - 3 = 24$   
 $37 - 3 = 34$   
 $47 - 3 = 44$   
 $57 - 3 = 54$   
 $67 - 3 = 64$   
 $77 - 3 = 74$   
 $87 - 3 = 84$   
 $97 - 3 = 94$   
Rule: subtract 3

- (d)  $20 - 9 = 11$   
 $30 - 9 = 21$   
 $40 - 9 = 31$   
 $50 - 9 = 41$   
 $60 - 9 = 51$   
 $70 - 9 = 61$   
 $80 - 9 = 71$   
 $90 - 9 = 81$   
Rule: subtract 9

## PAGE 124

1.  
(a) 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40  
(b) 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108  
(c) 980, 880, 780, 680, 580, 480, 380, 280, 180, 80  
(d) 300, 325, 350, 375, 400, 425, 450, 475, 500, 525, 550, 575  
(e) 250, 500, 750, 1000, 1250, 1500, 1750, 2000, 2250, 2500, 2750  
(f) 975, 1000, 1025, 1050, 1075, 1100, 1125, 1150, 1175, 1200  
(g) 1400, 1450, 1500, 550, 1600, 1650, 1700, 1750, 1800, 1850, 1900

2.  
(a) 4, 8, 12, 16, 20, 24, 28  
(b) 7, 14, 21, 28, 35, 42, 49  
Rule: Add 7

- (c) 36, 45, 54, 63, 72, 81  
Rule: Add 9  
(d) 18, 24, 30, 36, 42, 48, 54,  
Rule: Add 6

- (e) 64, 56, 48, 40, 32, 24  
Rule: subtract 8  
(f) 156, 135, 114, 93, 72, 51  
Rule: subtract 21

- (g) 450, 430, 410, 390, 370  
Rule: subtract 20

- (h) 950, 1000, 1050, 1100, 1150, 1200  
Rule: Add 50

- (i) 4000, 4250, 4500, 4750, 5000  
Rule: Add 250

- (j) 6120, 6020, 5920, 5820, 5720  
Rule: Take away 100

## PAGE 125

1 1hr 15mins

2.  
(a) 1hr 20mins  
(b) 1hr 35mins  
(c) 1hr 40mins  
(d) 1hr 29mins

3.  
(a) 90 minutes  
(b) 85 minutes  
(c) 77 minutes  
(d) 103 minutes

4.  
(a) 105 minutes  
(b) 150 minutes  
(c) 72 minutes

5.

1.	1:35
2.	1:43
3.	1:50
4.	2:25
5.	2:41
6.	1hr 6 minutes

6. 4:15

7. 79 minutes

Challenge: (i) 3hrs 6mins  
(ii) 186 minutes

## PAGE 126

1.  
(a) hrs mins  
3 53  
(b) hrs mins  
5 52  
(c) hrs mins  
3 50  
(d) hrs mins  
4 56

- 2.
- (a) hrs mins  
3 84  
4 24
- (b) hrs mins  
5 93  
6 33
- (c) hrs mins  
5 107  
6 47
- (d) hrs mins  
5 86  
6 26
- 3.
- (a) hrs mins  
5 28
- (b) hrs mins  
6 27
- (c) hrs mins  
8 33
- (d) hrs mins  
8 17
- 4.
- (a) hrs mins  
7 30
- (b) hrs mins  
7 15
- (c) hrs mins  
9 10
- (d) hrs mins  
9 50
- 5.
- (a) hrs mins  
6 03
- (b) hrs mins  
8 25
- (c) hrs mins  
6 17
- (d) hrs mins  
7 27
- (e) hrs mins  
8 53

**PAGE 127**

- 1.
- (a) hrs mins  
2 48
- (b) hrs mins  
2 45
- (c) hrs mins  
1 55
- (d) hrs mins  
1 48
- 2.
- (a) hrs mins  
3 47
- (b) hrs mins  
1 39
- (c) hrs mins  
3 53
- (d) hrs mins  
1 39
- 3.
- (a) hrs mins  
2 54
- (b) hrs mins  
3 49
- (c) hrs mins  
2 41
- (d) hrs mins  
5 49
- (e) hrs mins  
3 55

4. 1hr 52 mins

**Challenge:** (a) 2hrs 27mins  
(b) 4hrs 54mins

**PAGE 128**

- A 1. 9 minutes  
2. 25 minutes  
3. 1hr 27mins  
4. 1hr 45mins  
5. 18 minutes  
6. 46 minutes  
7. 57 minutes  
8. 47 minutes

9. 29 minutes  
10. Space School  
11. 8:10  
12. 54 minutes
- B** 1. 57 minutes  
2. 1hr 42mins  
3. 1hr 40mins  
4. 1hr 15mins  
5. 2hrs 51mins  
6. 3hrs 14mins  
7. 14 minutes  
8. Portlaoise to Limerick Junction  
9. 2hrs 17mins  
10. 1hr 32mins  
11. (a) 1hr 49mins  
(b) car by 10 mins

**Challenge:** 6hrs 28mins

**PAGE 129**

1. possible  
2. impossible  
3. certain  
4. possible  
5. certain  
6. possible  
7. likely  
8. impossible  
9. definite  
10. never

**PAGE 130**

1. certain  
2. possible  
3. impossible  
4. possible

**Challenge:** impossible

**PAGE 131**

1. possible (unlikely)  
2. always  
3. never  
4. possible (likely)  
5. possible (likely)  
6. never  
7. possible  
8. possible (unlikely)  
9. never  
10. always

**PAGE 132**

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

**PAGE 133**

- 1.
- (a) 50m  
(b)  $^{15}/_{100}$ km  
(c) 0.35km  
(d) 450m  
(e)  $^{56}/_{100}$ km  
(f) 770m  
(g)  $^{77}/_{100}$ km  
(h) 0.77km  
(i) 930m  
(j) 0.97km

- 2.
- (a) 1000m  
(b) 500m  
(c) 250m  
(d) 100m  
(e) 300m  
(f) 700m  
(g) 10m  
(h) 170m  
(i) 230m  
(j) 100m  
(k) 200m  
(l) 700m  
(m) 10m  
(n) 190m  
(o) 630m  
(p) 800m  
(q) 990m  
(r) 770m

- 3.
- (a) 300m –  $^{3}/_{10}$ km – 0.3km  
(b) 600m –  $^{6}/_{10}$ km – 0.6km  
(c) 90m –  $^{9}/_{100}$ km – 0.09km  
(d) 60m –  $^{6}/_{100}$ km – 0.06km  
(e) 830m –  $^{83}/_{100}$ km – 0.83km  
(f) 750m –  $^{3}/_{4}$ km – 0.75km

**PAGE 134**

1.  
 (a) 1000m  
 (b) 2000m  
 (c) 500m  
 (d) 250m  
 (e) 750m  
 (f) 100m  
 (g) 300m  
 (h) 10m  
 (i) 270m
2.  
 (a)  $1100\text{m} = 1\text{km}100\text{m} = 1\frac{1}{10}\text{km} = 1.1\text{km}$   
 (b)  $1400\text{m} = 1\text{km}400\text{m} = 1\frac{4}{10}\text{km} = 1.4\text{km}$   
 (c)  $1800\text{m} = 1\text{km}800\text{m} = 1\frac{8}{10}\text{km} = 1.8\text{km}$   
 (d)  $1430\text{m} = 1\text{km}430\text{m} = 1\frac{43}{100}\text{km} = 1.43\text{km}$   
 (e)  $1280\text{m} = 1\text{km}280\text{m} = 1\frac{28}{100}\text{km} = 1.28\text{km}$   
 (f)  $2250\text{m} = 2\text{km}250\text{m} = 2\frac{1}{4}\text{km} = 2.25\text{km}$   
 (g)  $2060\text{m} = 2\text{km}60\text{m} = 2\frac{6}{100}\text{km} = 2.06\text{km}$   
 (h)  $1040\text{m} = 1\text{km}40\text{m} = 1\frac{4}{100}\text{km} = 1.04\text{km}$

3.  
 (a) 8.03km  
 (b) 4.02km  
 (c) 6.54km  
 (d) 5.72km

4.  
 (a) 2.26km  
 (b) 2.33km  
 (c) 0.91km  
 (d) 5.88km

5.  
 (a) 12.72km  
 (b) 20.84km  
 (c) 14.80km  
 (d) 16.47km

6.  
 (a) 1.47km  
 (b) 1.38km  
 (c) 1.64km  
 (d) 1.24km

7.  
 (a) 12.21km  
 (b) 23.16km  
 (c) 1.29km  
 (d) 3.84km  
 (e) 48.56km  
 (f) 10.2km  
 (g) 11.9km  
 (h) 1.69km  
 (i) 2.07km  
 (j) 1.11km

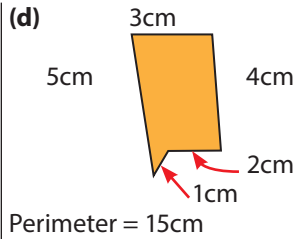
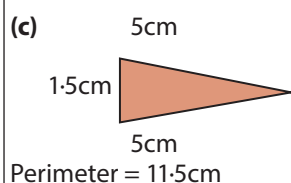
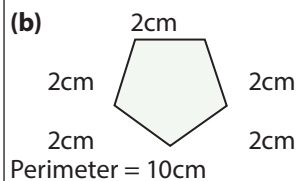
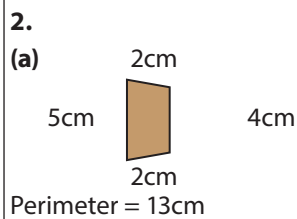
**PAGE 135**

1. a = 2.32km  
 b = 3.28km  
 c = 2.07km  
 d = 1.98km  
 e = 2.14km  
 f = 1.6km
2. 5km 350m  
 3. 5km 600m  
 4. 4km 50m  
 5. 6km 400m  
 6. 1km 160m  
 7. 1km 440m

Challenge: 4km 100m

**PAGE 136**

1.  
 (a) 10cm  
 (b) 9cm  
 (c) 16.5cm



3.  
 (a) 460m  
 (b) 348m  
 (c) 112m  
 (d) 174m  
 (e) 3.22km

**PAGE 137**

1.  
 (a) 12cm  
 (b) 14cm  
 (c) 14cm  
 (d) 18cm

3. 272cm  
 4. 46cm

5.  
 (a) 18cm  
 (b) 32cm  
 (c) 12cm  
 (d) 4cm  
 (e) 6cm  
 (f) 56cm

Challenge: (i) 1405m  
 (ii) 1.405km or 1km 405m

**PAGE 138**

1. 2.9km  
 2. 1070m  
 3. 750m  
 4. 150 minutes  
 5. 9  
 6.  $\frac{7}{100}$   
 7. 90c  
 8. 8c  
 9. 29.77  
 10. 4  
 11. €3.75  
 12. 49  
 13. €3.30  
 14.  $\frac{5}{6}$

15. 197 minutes  
 16. 36cm  
 17. 48cm  
 18. 43.52  
 19. 320  
 20. 40

**PAGE 139**

1.  
 (a) 
$$\begin{array}{r} 154 \\ 154 \\ +154 \\ \hline 154 \times 3 = 462 \end{array}$$

(b) 
$$\begin{array}{r} 236 \\ 236 \\ 236 \\ +236 \\ \hline 236 \times 4 = 944 \end{array}$$

(c) 
$$\begin{array}{r} 163 \\ 163 \\ 163 \\ +163 \\ \hline 163 \times 4 = 652 \end{array}$$

(d) 
$$\begin{array}{r} 361 \\ 361 \\ 361 \\ 361 \\ +361 \\ \hline 361 \times 5 = 1805 \end{array}$$

(e) 
$$\begin{array}{r} 447 \\ 447 \\ +447 \\ \hline 447 \times 3 = 1341 \end{array}$$

(f) 
$$\begin{array}{r} 538 \\ 538 \\ 538 \\ +538 \\ \hline 538 \times 4 = 2152 \end{array}$$

2. 
$$\begin{array}{r} 167 \\ 167 \\ 167 \\ +167 \\ \hline 167 \times 4 = 668 \end{array}$$

3. 
$$\begin{array}{r} 186 \\ 186 \\ 186 \\ +186 \\ \hline 186 \times 4 = 744 \end{array}$$

4.

$$\begin{array}{r} 278 \\ 278 \\ 278 \\ 278 \\ 278 \\ + 278 \\ \hline 278 \times 5 = 1390 \end{array}$$

5.

$$\begin{array}{r} 454\text{g} \\ 454\text{g} \\ 454\text{g} \\ 454\text{g} \\ 454\text{g} \\ + 454\text{g} \\ \hline 454\text{g} \times 5 = 2270\text{g} \end{array}$$

**PAGE 140**

1.

h	t	u	28
3	4	7	160
<u>X 4</u>			+1200
13	8	8	1388

2.

h	t	u	6
5	3	1	180
<u>X 6</u>			+3000
31	8	6	3186

- 3.
- (a) 747
  - (b) 1280
  - (c) 3858
  - (d) 2570
  - (e) 3420
- 4.
- (a) 1408
  - (b) 3073
  - (c) 3528
  - (d) 6714
  - (e) 3155

- 5 2520
- 6. 1256
- 7. 1370

Challenge: 2568m

**PAGE 141**

1.

(a)

th	h	t	u
	1	6	4
<u>x 2 7</u>			
1	1	4	8
<u>+ 3 2 8 0</u>			
4	4	2	8

(b)

th	h	t	u
	2	3	1
<u>x 4 3</u>			
	6	9	3
<u>+ 9 2 4 0</u>			
9	9	3	3

(c)

th	h	t	u	
	1	8	6	
<u>x 3 7</u>				
	1	3	0	2
<u>+ 5 5 8 0</u>				
6	8	8	2	

- 2.
- (a) 9855
  - (b) 6723
  - (c) 7957
  - (d) 9614
  - (e) 9867

- 3. 6080
- 4. 7943
- 5. 9632km
- 6. 9555

**PAGE 142**

1.

(a)

117	100
<u>x 53</u>	<u>x 50</u>
6201	5000

(b)

286	300
<u>x 32</u>	<u>x 30</u>
9152	9000

(c)

173	200
<u>x 43</u>	<u>x 40</u>
7439	8000

- 2. €9776
- 3. €9039
- 4. €8976
- 5. €8100
- 6. €9177

Challenge: (a) €3066  
(b) €1368

**PAGE 143**

- 1. 620
- 2. 1232
- 3. 1482
- 4. 1465
- 5. 1674

- 6. 2848
- 7. 1152
- 8. 1824
- 9. 9342km
- 10. 9911

Challenge: 3645

**PAGE 144**

- 1.
- (a) 241
  - (b) 134
  - (c) 322
  - (d) 423
  - (e) 223
  - (f) 314
  - (g) 184
  - (h) 434
  - (i) 352

- 2.
- (a) 304
  - (b) 121
  - (c) 114
  - (d) 115
  - (e) 112
  - (f) 127
  - (g) 114
  - (h) 112
  - (i) 124
  - (j) 109
  - (k) 104
  - (l) 109

- 3. 22 litres
- 4. 107km

Challenge: 110

**PAGE 145**

- 1.
- (a) 145
  - (b) 133
  - (c) 178
  - (d) 164
  - (e) 149
  - (f) 158
  - (g) 122
  - (h) 123
  - (i) 122

- 2.
- (a) 134
  - (b) 156
  - (c) 139
  - (d) 148
  - (e) 258

- 3.
- (a) 198
  - (b) 144
  - (c) 113
  - (d) 128
  - (e) 108

- 4. 57
- 5. 42

Challenge: 132 seconds or  
2 mins 12 secs

**PAGE 146**

- 1.
- (a) 134 R2
  - (b) 155 R2
  - (c) 139 R1
  - (d) 173 R1
- 2.
- (a) 148 R4
  - (b) 196 R1
  - (c) 122 R5
  - (d) 137 R5

- 3.
- (a) 279 R2
  - (b) 136 R3
  - (c) 121 R1
  - (d) 46 R5
  - (e) 106 R6
  - (f) 131 R4
  - (g) 82 R6
  - (h) 94 R1

- 4. 166 metres  
2 metres

Challenge: (a) 179  
(b) 0

## PAGE 147

1.  
**(a)**  $4 \times 7 = 28 \div 7 = 4$   
 $11 \times 7 = 77 \div 7 = 11$   
 $6 \times 7 = 42 \div 7 = 6$   
 $8 \times 7 = 56 \div 7 = 8$   
 $5 \times 7 = 35 \div 7 = 5$

**(b)**  $2 \times 9 = 18 \div 9 = 2$   
 $9 \times 9 = 81 \div 9 = 9$   
 $7 \times 9 = 63 \div 9 = 7$   
 $3 \times 9 = 27 \div 9 = 3$   
 $5 \times 9 = 45 \div 9 = 5$

**(c)**  $3 \times 8 = 24 \div 8 = 3$   
 $7 \times 8 = 56 \div 8 = 7$   
 $9 \times 8 = 72 \div 8 = 9$   
 $8 \times 8 = 64 \div 8 = 8$   
 $6 \times 8 = 48 \div 8 = 6$

2.  
**(a)**  $5 \times 12 = 60$  so,  
 $60 \div 12 = 5$   
 $60 \div 5 = 12$

**(b)**  $8 \times 9 = 72$  so,  
 $72 \div 9 = 8$  and  
 $72 \div 8 = 9$

**(c)**  $6 \times 7 = 42$  so,  
 $42 \div 7 = 6$   
 $42 \div 6 = 7$

**(d)**  $12 \times 8 = 96$  so,  
 $96 \div 12 = 8$   
 $96 \div 8 = 12$

**(e)**  $7 \times 8 = 56$  so  
 $56 \div 7 = 8$   
 $56 \div 8 = 7$

3. 608

4. 24

5. €531

Challenge: 6

## PAGE 148

1.  
**(a)** 56, 8, 72, 24, 3, 36, 9, 63  
**(b)** 81, 9, 45, 15, 90, 9, 72, 8

2.  
**(a)**  $4 \times 9 = 36$   
**(b)**  $9 \times 4 = 36$   
**(c)**  $36 \div 9 = 4$   
**(d)**  $36 \div 4 = 9$

**(a)**  $5 \times 11 = 55$   
**(b)**  $11 \times 5 = 55$   
**(c)**  $55 \div 11 = 5$   
**(d)**  $55 \div 5 = 11$

**(a)**  $6 \times 7 = 42$   
**(b)**  $7 \times 6 = 42$   
**(c)**  $42 \div 7 = 6$   
**(d)**  $42 \div 6 = 7$

**(a)**  $7 \times 9 = 63$   
**(b)**  $9 \times 7 = 63$   
**(c)**  $63 \div 9 = 7$   
**(d)**  $63 \div 7 = 9$

**(a)**  $8 \times 9 = 72$   
**(b)**  $9 \times 8 = 72$   
**(c)**  $72 \div 9 = 8$   
**(d)**  $72 \div 8 = 9$

3. 13 0

4. 540 grammes

Challenge: 40

## PAGE 149

1.  
**(a)** 171  
**(b)** 368  
**(c)** 228  
**(d)** 158  
**(e)** 180  
**(f)** 240  
**(g)** 189  
**(h)** 602  
**(i)** 395  
**(j)** 336  
**(k)** 188  
**(l)** 603

2.  
**(a)** 5  
**(b)** 4  
**(c)** 4  
**(d)** 7  
**(e)** 3  
**(f)** 4

3. 4 days  
 12kg unused

4. 324

Challenge: 432km

## PAGE 150

1.  
**(a)** 15  
**(b)** 28  
**(c)** 15  
**(d)** 19  
**(e)** 13  
**(f)** 34 R1  
**(g)** 7 R5  
**(h)** 20 R3  
**(i)** 17 R4  
**(j)** 25 R1

2.

**(a)**

x	3	6	10	12	15
3	9	18	30	36	45
8	24	48	80	96	120
10	30	60	100	120	150
14	42	84	140	168	210
17	51	102	170	204	255

**(b)**

÷	3	6	9
90	30	15	10
270	90	45	80
126	42	21	14
288	96	48	32
324	108	54	36

**(c)**

÷	5	10
50	10	5
150	30	15
300	60	30
430	86	43
650	130	65

3.

**(a)** 8  
**(b)** €9.50  
**(c)** €26  
**(d)** 174  
**(e)** Louise: €13.50  
 Liam: €15.50  
**(f)** €39.50

Challenge: (i) 8100

## PAGE 151

1. + €2865  
 2. - €7223  
 3. + €430  
 4. ÷ 18  
 5. x 448  
 6. x 666  
 7. - 2716  
 8. - 1656m  
 9. ÷ 49  
 10. x 675  
 11. x 972

Challenge: (i) 31  
 (ii) 6

## PAGE 152

1. 7  
 2. 3  
 3. 6  
 4. 480  
 5. 8 R4  
 6. certain  
 7. 1 in 6  
 8. €356  
 9. 30 R3  
 10.  $2/12$   
 11. €17.25  
 12. Pam  
 13.  $3/100$   
 14. 4  
 15. €32  
 16. 2hrs 20mins  
 17. 3900  
 18. 3  
 19. 36cm  
 20. 94 R1

## PAGE 153

1.  
**(a)** (i) livestock scales  
 (ii) digital scales  
**(b)** 69kg  
**(c)** 92g  
**(d)** 357kg  
**(e)** €11.70  
**(f)** €24  
**(g)** 10

2 No answers

**PAGE 154**

1.  
 (a) 1000g  
 (b) 250g  
 (c) 500g  
 (d) 750g  
 (e) 100g  
 (f) 300g  
 (g) 700g  
 (h) 800g  
 (i) 200g  
 (j) 400g  
 (k) 600g  
 (l) 1000g  
 (m) 100g  
 (n) 500g  
 (o) 800g  
 (p) 900g  
 (q) 3000g  
 (r) 3500g  
 (s) 4100g  
 (t) 2200g

2.  
 (a) 400g  
 (b) 500g  
 (c) 350g  
 (d) 50g  
 (e) 250g  
 (f) 200g

**PAGE 155**

1.  
 (a) 20g  $\frac{2}{100}$ kg 0.02kg  
 (b) 90g  $\frac{9}{100}$ kg 0.09kg  
 (c) 100g  $\frac{1}{10}$ kg 0.1kg  
 (d) 160g  $\frac{16}{100}$ kg 0.16kg  
 (e) 350g  $\frac{35}{100}$ kg 0.35kg  
 (f) 800g  $\frac{8}{10}$ kg ( $\frac{4}{5}$ kg) 0.8kg  
 (g) 750g  $\frac{75}{100}$ kg ( $\frac{3}{4}$ kg) 0.75kg  
 (h) 440g  $\frac{44}{100}$ kg 0.44kg  
 (i) 500g  $\frac{1}{2}$ kg 0.5kg  
 (j) 700g  $\frac{7}{10}$ kg 0.7kg  
 (k) 930g  $\frac{93}{100}$ kg 0.93kg  
 (l) 240g  $\frac{24}{100}$ kg 0.24kg  
 (m) 250g  $\frac{1}{4}$ kg 0.25kg  
 (n) 30g  $\frac{3}{100}$ kg 0.03kg

2.  
 (a) 1700g  
 (b) 1450g  
 (c) 1050g  
 (d) 2400g  
 (e) 2500g  
 (f) 3990g  
 (g) 4070g  
 (h) 5870g  
 (i) 2210g  
 (j) 3750g  
 (k) 4280g

3.  
 (a) 1kg 500g  
 (b) 1kg 900g  
 (c) 1kg 950g  
 (d) 2kg 200g  
 (e) 2kg 30g  
 (f) 2kg 960g  
 (g) 3kg 80g  
 (h) 3kg 650g  
 (i) 3kg 500g  
 (j) 3kg 750g  
 (k) 3kg 990g

**PAGE 156**

1.  
 (a) 1000g  
 (b) 500g  
 (c) 250g  
 (d) 750g  
 (e) 100g  
 (f) 200g  
 (g) 10g  
 (h) 230g  
 (i) 100g  
 (j) 10g
2.  
 1200g 1kg 200g  
 1  $\frac{2}{10}$ kg 1.2kg  
 2310g 2kg 310g  
 2  $\frac{31}{100}$ kg 2.31kg  
 2700g 2kg 700g  
 2  $\frac{7}{10}$ kg 2.7kg  
 3210g 3kg 210g  
 3  $\frac{21}{100}$ kg 3.21kg  
 3560g 3kg 560g  
 3  $\frac{56}{100}$ kg 3.56kg  
 4500g 4kg 500g  
 4  $\frac{1}{2}$ kg 4.5kg

- 250g 0kg 250g  
 $\frac{1}{4}$ kg 0.25kg  
 4080g 4kg 80g  
 4  $\frac{8}{100}$ kg 4.08kg  
 3800g 3kg 800g  
 3  $\frac{8}{10}$ kg 3.8kg

3.  
 (a) 2430g  
 (b) 9060g  
 (c) 3200g  
 (d) 6990g  
 (e) 5600g  
 (f) 380g  
 (g) 8240g  
 (h) 20g

4.  
 (a) 70g  $\frac{7}{100}$ kg 0.07kg  
 (b) 500g  $\frac{1}{2}$ kg 0.5kg  
 (c) 600g  $\frac{6}{10}$ kg 0.6kg  
 (d) 210g  $\frac{21}{100}$ kg 0.21kg  
 (e) 1350g 1  $\frac{35}{100}$ kg 1.35kg  
 (f) 120g  $\frac{12}{100}$ kg 0.12kg  
 (g) 750g  $\frac{3}{4}$ kg 0.75kg  
 (h) 50g  $\frac{5}{100}$ kg 0.05kg

**PAGE 157**

1.  
 (a) 1470g 1.47kg  
 (b) 1140g 1.14kg  
 (c) 1450g 1.45kg  
 (d) 1160g 1.16kg

2.  
 (a) 6.92kg  
 (b) 6.44kg  
 (c) 8.04kg  
 (d) 7.79kg

3.  
 (a) 4.63kg  
 (b) 2.87kg  
 (c) 4.38kg  
 (d) 2.67kg

4.  
 (a) 2450g 2.45kg  
 (b) 2820g 2.82kg  
 (c) 3720g 3.72kg  
 (d) 2070g 2.07kg

5.  
 (a) 11.68kg  
 (b) 14.55kg  
 (c) 49.21kg  
 (d) 11.84kg

6.  
 (a) 2.12kg  
 (b) 1.34kg  
 (c) 1.08kg  
 (d) 2.31kg

- Challenge: (a) 22.84kg  
 (b) 22.68kg  
 (c) 35.5kg  
 (d) 1.23kg  
 (e) 23.49kg  
 (f) 1.89kg  
 (g) 1.49kg  
 (h) 62.8kg

**PAGE 158**

1.  
 (a) 1.87kg  
 (b) 0.12kg  
 (c) 1.12kg  
 (d) 0.04kg  
 (e) 0.8kg  
 (f) 0.02kg  
 (g) 0.08kg  
 (h) 0.06kg  
 (i) 0.33kg  
 (j) 1.35kg  
 (k) 0.75kg  
 (l) 0.21kg

2. 750g  
 3. i. 1880g  
 ii. 1.88kg

4. corn  
 5. 450g  
 6. 150g  
 7. 1050g  
 8. 360g  
 9. i. 24g  
 ii. 12g  
 iii. 270g  
 iv. 8g

- Challenge: 6.75kg



## PAGE 159

2.

- (a)  $6\text{cm}^2$
- (b)  $20\text{cm}^2$
- (c)  $21\text{cm}^2$
- (d)  $12\text{cm}^2$
- (e)  $45\text{cm}^2$

3.  $24\text{cm}^2$

## PAGE 160

1. Mobile phone =  $91\text{cm}^2$   
 Highlighter =  $32\text{cm}^2$   
 Notepad =  $15\text{cm}^2$   
 Stamp =  $6\text{cm}^2$   
 Plasters =  $48\text{cm}^2$   
 Gift card =  $63\text{cm}^2$

2. i. Stamp  
 ii. Notepad  
 iii. Highlighter  
 iv. Plasters  
 v. Gift card  
 vi. Mobile phone

## PAGE 161

- Shape (a) =  $18\text{cm}^2$   
 Shape (b) =  $16\text{cm}^2$   
 Shape (c) =  $14\text{cm}^2$   
 Shape (d) =  $24\text{cm}^2$   
 Shape (e) =  $46\text{cm}^2$   
 Shape (f) =  $17\text{cm}^2$

## PAGE 162

1. Classroom floor \_\_\_\_\_  $\text{m}^2$   
 School corridor \_\_\_\_\_  $\text{m}^2$   
 Cover of this book \_\_\_\_\_  $\text{cm}^2$   
 Front Page of newspaper \_\_\_\_\_  $\text{cm}^2$   
 Penalty area of soccer pitch \_\_\_\_\_  $\text{m}^2$

Challenge:  $150\text{m}^2$

## PAGE 163

2.

- (a) 1000ml
- (b) 500ml
- (c) 250ml
- (d) 750ml
- (e) 100ml
- (f) 300ml
- (g) 600ml

- (h) 200ml
- (i) 600ml
- (j) 1000ml
- (k) 100ml
- (l) 900ml
- (m) 500ml
- (n) 700ml
- (o) 250ml
- (p) 750ml

3.

- (a) 800ml
- (b) 250ml
- (c) 900ml
- (d) 100ml
- (e) 650ml

4.

- (a) 200ml
- (b) 750ml
- (c) 100ml
- (d) 900ml
- (e) 350ml

## PAGE 164

1.

- (a)  $10\text{ml} = \frac{1}{100} = 0.01\text{l}$
- (b)  $60\text{ml} = \frac{6}{100} = 0.06\text{l}$
- (c)  $180\text{ml} = \frac{18}{100} = 0.18\text{l}$
- (d)  $300\text{ml} = \frac{3}{10} = 0.3\text{l}$
- (e)  $420\text{ml} = \frac{42}{100} = 0.42\text{l}$
- (f)  $500\text{ml} = \frac{1}{2} = 0.5\text{l}$
- (g)  $590\text{ml} = \frac{59}{100} = 0.59\text{l}$
- (h)  $760\text{ml} = \frac{76}{100} = 0.76\text{l}$
- (i)  $850\text{ml} = \frac{85}{100} = 0.85\text{l}$
- (j)  $930\text{ml} = \frac{93}{100} = 0.93\text{l}$
- (k)  $1000\text{ml} = 1\text{l} = 1.0\text{l}$

2.

- (a) 1300ml
- (b) 1650ml
- (c) 1470ml
- (d) 1060ml
- (e) 2700ml
- (f) 2490ml
- (g) 3180ml
- (h) 4030ml
- (i) 3760ml
- (j) 4250ml
- (k) 3400ml

3.

- (a) 1l 900ml
- (b) 1l 810ml
- (c) 2l 360ml
- (d) 2l 40ml
- (e) 3l 700ml
- (f) 4l 520ml
- (g) 5l 160ml
- (h) 5l 80ml
- (i) 1.3l
- (j) 6.25l
- (k) 3.04l

## PAGE 165

1.

- (a) 100ml
- (b) 900ml
- (c) 10ml
- (d) 70ml
- (e) 230ml
- (f) 200ml
- (g) 250ml
- (h) 300ml
- (i) 30ml

2.

- (a)  $1100\text{ml} = 1\text{l } 100\text{ml} = 1\frac{1}{10}\text{l} = 1.1\text{l}$
- (b)  $1700\text{ml} = 1\text{l } 700\text{ml} = 1\frac{7}{10}\text{l} = 1.7\text{l}$
- (c)  $1450\text{ml} = 1\text{l } 450\text{ml} = 1\frac{45}{100} = 1.45\text{l}$
- (d)  $1070\text{ml} = 1\text{l } 70\text{ml} = 1\frac{7}{100} = 1.07\text{l}$
- (e)  $2360\text{ml} = 2\text{l } 360\text{ml} = 2\frac{36}{100} = 2.36\text{l}$
- (f)  $3040\text{ml} = 3\text{l } 40\text{ml} = 3\frac{4}{100} = 3.04\text{l}$
- (g)  $3500\text{ml} = 3\text{l } 500\text{ml} = 3\frac{5}{10} = 3.5\text{l}$
- (h)  $4065\text{ml} = 4\text{l } 65\text{ml} = 4\frac{65}{1000} = 4.065\text{l}$
- (i)  $5040\text{ml} = 5\text{l } 40\text{ml} = 5\frac{4}{100} = 5.04\text{l}$

3.

- (a)  $720\text{ml} = \frac{72}{100} = 0.72\text{l}$
- (b)  $1060\text{ml} = \frac{106}{100} = 1.06\text{l}$
- (c)  $750\text{ml} = \frac{3}{4} = 0.75\text{l}$
- (d)  $30\text{ml} = \frac{3}{100} = 0.03\text{l}$
- (e)  $3050\text{ml} = \frac{305}{100} = 3.05\text{l}$
- (f)  $800\text{ml} = \frac{4}{5} = 0.8\text{l}$
- (g)  $1600\text{ml} = \frac{16}{10} = 1.6\text{l}$

- (h)  $300\text{ml} = \frac{3}{10} = 0.3\text{l}$
- (i)  $350\text{ml} = \frac{35}{100} = 0.35\text{l}$

Challenge: 2250ml or 2.25l

## PAGE 166

1.

- (a) 1210ml 1.21l
- (b) 1210ml 1.21l
- (c) 1550ml 1.55l
- (d) 1310ml 1.31l

2.

- (a) 5.23l
- (b) 8.83l
- (c) 8.90l
- (d) 5.18l

3.

- (a) 3.56l
- (b) 4.28l
- (c) 1.55l
- (d) 2.48l

4.

- (a) 2080ml 2.08l
- (b) 1620ml 1.62l
- (c) 3150ml 3.15l
- (d) 1040ml 1.04l

5.

- (a) 31.28l
- (b) 26.12l
- (c) 18.76l
- (d) 18.64l

6.

- (a) 1.28l
- (b) 2.09l
- (c) 1.28l
- (d) 2.87l

Challenge: (a) 17.49l  
 (b) 22.65l  
 (c) 1.26l  
 (d) 0.66l  
 (e) 31.78l  
 (f) 0.89l



**PAGE 167**

1. 770ml or 0.77l  
 2. 1.58l  
 3. 0.64l  
 4.  
 (a) 2.31l  
 (b) €6.30  
 (c) €1.85  
 (d) 0.04l  
 5.  
 (a) 16.45l  
 (b) €31.15  
 6. i. 470ml  
 ii. 0.47l  
 7. 0.21l  
 Challenge: (a) 480ml  
 (b) 55c or €0.55

**PAGE 168**

1.  
 (i) (a) 8  
 (b) 9  
 (c) 32  
 (ii) (a) 1  
 (b) 1  
 (c) 23  
 (iii) (a) 6  
 (b) 6  
 (c) 7  
 (iv) (a) 9  
 (b) 4 R2  
 (c) 7  
 2.  
 $9 + 21 \rightarrow = 30$   
 $7 \times \rightarrow = 35$   
 $5 + 5 \rightarrow + 5 = 15$   
 $35 \div \rightarrow = 7 = 5$   
 $30 \div \rightarrow = 5 = 6$   
 $30 - \rightarrow = 5 = 25$   
 3.  
 (a) >  
 (b) >  
 (c) +  
 (d) x x  
 (e) x -  
 (f) + x

- (g) <  
 (h) ÷ -  
 (i) - +  
 4.  
 (a) <  
 (b) >  
 (c) <  
 (d) >  
 (e) <  
 (f) =  
 5.  
 (a) 700g  
 (b) 47cm  
 (c) 250ml  
 (d) 23 minutes  
 (e) 35 minutes  
 (f) €6.25  
 (g) 750m  
 (h) 350ml  
 (i) 650g

**PAGE 169**

1.  
 (a)  $6 - 2 = 4$   
 (b)  $11 - 3 = 8$   
 (c)  $4 + 6 = 10$   
 (d)  $8 + 5 + 20 = 33$   
 (e)  $24 \div 8 = 3$   
 (f)  $€20 - €13.65 = €6.35$   
 2.  
 (a) 4  
 (b) 9  
 (c) 16  
 (d) 2  
 (e) 17  
 (f) 7  
 (g) 4  
 (h) 9  
 (i) 10  
 3.  
 (a) 200  
 (b) 235  
 (c) 276  
 (d) 418  
 (e) 473  
 (f) 321

4.  
 (a) 416  
 (b) 786  
 (c) 924  
 (d) 685  
 (e) 660  
 (f) 877

**PAGE 170**

1.  
 D = 5  
 A = 6  
 K = 11  
 C = 3  
 R = 7  
 O = 8  
 B = 1  
 E = 2  
 C O D E B R E A K E R  
 3 8 5 2 1 7 2 6 11 2 7  
 2.  
 (a)  $(6 \times 4) - 5 = 19$   
 (b)  $(38 - 6) \div 4 = 8$   
 (c)  $(80 \div 4) \times 3 = 60$   
 (d)  $12 + (12 \times 2) = 36$   
 (e)  $(9 \times 8) + 7 = 79$

3.  
 (a)  $3 + 2 = 5$  and  $3 - 2 = 1$   
 so  $\blacktriangle = 3$  and  $\blacksquare = 2$   
 (b)  $2 \times 5 = 10$  and  $5 - 2 = 3$   
 so  $\bullet = 2$  and  $\blacksquare = 5$   
 (c)  $6 - 2 = 4$  and  $6 + 2 = 8$   
 so  $\blacksquare = 6$  and  $\bullet = 2$   
 (d)  $4 + 4 = 8$  and  $12 \div 4 = 3$   
 so  $\blacktriangle = 4$  and  $\blacksquare = 12$

**PAGE 171**

1.  $28 - (7+9) = 12$   
 2.  $(60 - 6) \div 9 = 6$   
 3.  $(9 \times 5) + (7 \times 3) = 66$   
 4.  
 (a) 644  
 (b) 469  
 (c) 173  
 (d) 872  
 (e) 956

5. €87  
 6. €13.75  
 7.  $(117 \div 9) \times 7 + 117 = 208$   
 8.  
 (a)  $(25 + 8) - 12 = 21$   
 (b)  $(84 - 19) + 7 = 72$   
 (c)  $(7 \times 9) + 13 = 76$   
 (d)  $(54 \div 6) + 4 = 13$   
 (e)  $(8 \times 9) - 5 = 67$   
 (f)  $(54 \div 7) = 7 \text{ R}5$   
 (g)  $(67 + 5) \div 9 = 8$   
 (h)  $(13 - 5) \times 9 = 72$   
 (i)  $(6 \times 8) + 7 = 55$

Challenge: €49.77

**PAGE 172**

1. €152  
 2. €20  
 3. €27.60  
 4. €13.50  
 5. pyramid  
 6. 1248  
 7. 8421  
 8. 7173  
 9. 21 minutes  
 10.  $\frac{1}{4}$   
 11. Dublin  
 12. Vertical  
 13. 4

**PAGE 173**

14. 320cm  
 15. 150cm  
 16. 14  
 17. definitely  
 18. 2515cm  
 19. 84 minutes  
 20. 456cm  
 21. 214  
 22. 120 mins = 2hrs 0mins  
 23. 90 minutes  
 24. pentagon  
 25. yes

**PAGE 174**

1. €4.20  
 2. €4.50  
 3. 3957

4. €3.60
  5. 45
  6. Kitchen or Digital scales
  7. 100g
  8. 1400ml
  9. 72
  10. 340
  11.  $\frac{35}{100}$  or  $\frac{7}{20}$
  12. 36cm
  13. 7cm
  14. 9 small squares
  15. 3:32
  16. 750ml
  17. 3760m
  18. 4830ml
  19.  $\frac{9}{12}$
  20. 1hr 47mins
8.  $36\text{cm}^2$
  9.  $\frac{1}{12}$
  10. €879
  11. €64
  12. 6000
  13. 2hrs 37mins
  14. 6
  15. 42cm
  16.  $\frac{3}{8}$
  17. 160 minutes
  18. €9.50
  19. €12
  20. €5

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## PAGE 175

1. 8764
2. 2359
3. 5386
4. 7000
5. 12
6. €2.80
7. 99
8. 9 R5
9. 
10. 36
11. 48
12. 14
13. i.  $6^{\frac{8}{10}}$   
ii.  $6^{\frac{18}{100}}$   
iii. 6.08

14. 8
15. €14.05
16. 490
17. 14
18. 7:25
19. 790
20. 

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## PAGE 176

1. 4
2. 40 minutes
3. x
4. 56
5. 800m
6. 325g
7. 550ml