

# Figure it Out 6 — Answers

## 1. Revision

### Mental Computation

- (page 1)
- |                   |                    |                    |        |
|-------------------|--------------------|--------------------|--------|
| 1. 62             | 2. 51              | 3. 62              | 4. 6R3 |
| 5. 7R5            | 6. 5R7             | 7. 16              | 8. 21  |
| 9. 20             | 10. 32             | 11. 42             | 12. 63 |
| 13. 15            | 14. 21             | 15. 54             | 16. 9  |
| 17. 40            | 18. 6              | 19. 9              | 20. 12 |
| 21. 14            | 22. 18             | 23. 8              | 24. 7  |
| 25. $\frac{3}{9}$ | 26. $\frac{8}{12}$ | 27. $\frac{9}{12}$ |        |
| 28. $\frac{9}{4}$ | 29. $\frac{13}{8}$ | 30. $\frac{22}{9}$ |        |

### Written Computation

- |          |                    |                    |                    |                    |
|----------|--------------------|--------------------|--------------------|--------------------|
| 1. 7934  | 2. 54·23           | 3. €82·79          | 4. €88·17          | 5. 4587            |
| 6. 13·78 | 7. €53·85          | 8. €52·68          | 9. 8806            | 10. 9408           |
| 11. 7743 | 12. 8964           | 13. 34R10          | 14. 21R18          | 15. 25R3           |
| 16. 46   | 17. $4\frac{3}{8}$ | 18. $6\frac{4}{9}$ | 19. $2\frac{5}{8}$ | 20. $1\frac{8}{9}$ |

### Mental Problems

- (page 2)
- |          |          |         |
|----------|----------|---------|
| 1. 45    | 2. €6·35 | 3. 72   |
| 4. 47895 | 5. €6·45 | 6. 0·25 |
| 7. 63    | 8. 72    | 9. 30%  |
| 10. 90   | 11. €54  | 12. €60 |

### Written Problems

- (page 3)
- |            |                   |                   |
|------------|-------------------|-------------------|
| 1. €112·50 | 2. €7·16          | 3. €17·38         |
| 4. 9048    | 5. €36·40         | 6. 17             |
| 7. 28      | 8. $8\frac{3}{8}$ | 9. $3\frac{3}{4}$ |
| 10. 190    | 11. 946           | 12. €536          |

## 2. Revision

### Mental Computation

- (page 4)
- |            |            |             |            |
|------------|------------|-------------|------------|
| 1. 1hr 23m | 2. 1hr 49m | 3. 2hrs 37m | 4. 2hr 54m |
| 5. 6.15am  | 6. 1.48pm  | 7. 8.20pm   | 8. 11.37pm |
| 9. 1090m   | 10. 3007m  | 11. 5080m   | 12. 4019m  |
| 13. 18     | 14. 81     | 15. 9       | 16. 18     |
| 17. 7      | 18. 18     | 19. 32      | 20. 63     |
| 21. 7      | 22. 24     | 23. 10      | 24. 18     |
| 25. 250g   | 26. 3070g  | 27. 1600g   | 28. 420ml  |
| 29. 2800ml | 30. 1090ml |             |            |

### Written Computation

- |           |           |           |
|-----------|-----------|-----------|
| 1. €82·44 | 2. €70·72 | 3. €99·15 |
| 4. €97·23 | 5. €87·48 | 6. €7·59  |
| 7. €7·41  | 8. €8·95  | 9. €8·94  |
| 10. €8·58 | 11. 30R14 | 12. 23R19 |
| 13. 21R13 | 14. 23R31 | 15. 28R28 |
| 16. 21    | 17. 552   | 18. 840   |
| 19. 783   | 20. 288   |           |

**Mental Problems**

- |          |                   |          |                   |
|----------|-------------------|----------|-------------------|
| (page 5) | 1. €2.75          | 2. 90    | 3. 17:50          |
|          | 4. €35            | 5. 15%   | 6. $24\text{m}^2$ |
|          | 7. $72\text{m}^2$ | 8. €48   | 9. 10             |
|          | 10. €17.50        | 11. €180 | 12. 80c           |

**Written Problems**

- |          |          |                      |           |
|----------|----------|----------------------|-----------|
| (page 6) | 1. 16:25 | 2. $425\text{m}^2$   | 3. €960   |
|          | 4. €5.74 | 5. $17.925\text{km}$ | 6. €15.90 |
|          | 7. 2.98l | 8. 85c               | 9. €58    |
|          | 10. €52  | 11. €414             | 12. €129  |

**3. Large Numbers**

**Mental Computation**

- |          |               |               |               |
|----------|---------------|---------------|---------------|
| (page 7) | 1. 78 040     | 2. 97 248     | 3. 83 030     |
|          | 4. 95 731     | 5. 100 000    | 6. 100 014    |
|          | 7. 207 000    | 8. 305 060    | 9. 405 360    |
|          | 10. 563 002   | 11. 1 000 000 | 12. 1 000 015 |
|          | 13. 2 000 450 | 14. 4 005 800 | 15. 2 999 999 |
|          | 16. 5 001 004 | 17. 79 000    | 18. 297 000   |
|          | 19. 1 765 000 | 20. 2 398 000 |               |

**Written Computation**

- |          |               |               |               |               |
|----------|---------------|---------------|---------------|---------------|
|          | 1. 479 076    | 2. 690 847    | 3. 906 738    | 4. 815 260    |
|          | 5. 40 000     | 6. 300 000    | 7. 3 000 000  | 8. 5 000 000  |
|          | 9. 384 025    | 10. 600 632   | 11. 836 273   | 12. 846 335   |
|          | 13. 257 883   | 14. 268 667   | 15. 458 782   | 16. 474 779   |
| (page 8) | 17. 3 922 838 | 18. 8 432 493 | 19. 5 908 673 | 20. 3 865 679 |

**Written Problems**

- |               |               |               |
|---------------|---------------|---------------|
| 1. 759 244    | 2. €484 400   | 3. 268 595    |
| 4. 222 466    | 5. 811 686    | 6. 3 970 123  |
| 7. 1 734 675  | 8. €5 528 130 | 9. €796 580   |
| 10. 3 887 573 | 11. 6 988 581 | 12. 2 625 491 |

**4. Multiplication**

**Mental Computation**

- |          |          |          |          |          |
|----------|----------|----------|----------|----------|
| (page 9) | 1. 79    | 2. 53    | 3. 35    | 4. 51    |
|          | 5. 62    | 6. 88    | 7. 183   | 8. 239   |
|          | 9. 476   | 10. 29   | 11. 46   | 12. 60   |
|          | 13. 72   | 14. 78   | 15. 99   | 16. 158  |
|          | 17. 279  | 18. 807  | 19. 370  | 20. 840  |
|          | 21. 970  | 22. 27.6 | 23. 89.2 | 24. 70.9 |
|          | 25. 2600 | 26. 5700 | 27. 8900 | 28. 326  |
|          | 29. 39   | 30. 2470 |          |          |

**Written Computation**

- |           |           |            |            |
|-----------|-----------|------------|------------|
| 1. 175.56 | 2. 225.42 | 3. 654.42  | 4. 435.15  |
| 5. 567.82 | 6. 909.42 | 7. 2825.55 | 8. 3656.64 |

Figure it Out 6 — answers

- |                    |                    |                    |                     |
|--------------------|--------------------|--------------------|---------------------|
| <b>9.</b> 6512·18  | <b>10.</b> 4530·02 | <b>11.</b> 174·906 | <b>12.</b> 451·926  |
| <b>13.</b> 363·024 | <b>14.</b> 427·162 | <b>15.</b> 448·957 | <b>16.</b> 384·033  |
| <b>17.</b> 230·802 | <b>18.</b> 3664·08 | <b>19.</b> 5578·52 | <b>20.</b> 29 222·4 |

**Mental Problems**

- |           |                 |                  |                  |                 |
|-----------|-----------------|------------------|------------------|-----------------|
| (page 10) | <b>1.</b> €1·60 | <b>2.</b> €3·74  | <b>3.</b> €1·40  | <b>4.</b> €8·60 |
|           | <b>5.</b> 240   | <b>6.</b> €76·50 | <b>7.</b> 600    | <b>8.</b> 30    |
|           | <b>9.</b> 11    | <b>10.</b> €4·25 | <b>11.</b> €3·40 | <b>12.</b> 1600 |

**Written Problems**

- |           |                   |                     |                    |                    |
|-----------|-------------------|---------------------|--------------------|--------------------|
| (page 11) | <b>1.</b> 33 022  | <b>2.</b> 203 970   | <b>3.</b> 1808·24  | <b>4.</b> 640·73   |
|           | <b>5.</b> 13 205  | <b>6.</b> 255·055km | <b>7.</b> 4432·05  | <b>8.</b> 228·085l |
|           | <b>9.</b> 230·928 | <b>10.</b> 97·118   | <b>11.</b> €448·79 | <b>12.</b> 176·094 |

**6. Division**

**Mental Computation**

- |           |                  |                  |                  |                 |                 |
|-----------|------------------|------------------|------------------|-----------------|-----------------|
| (page 12) | <b>1.</b> 9      | <b>2.</b> 8      | <b>3.</b> 12     | <b>4.</b> 6R4   | <b>5.</b> 7R5   |
|           | <b>6.</b> 8R4    | <b>7.</b> 7R6    | <b>8.</b> 9R7    | <b>9.</b> 9R5   | <b>10.</b> 40   |
|           | <b>11.</b> 37    | <b>12.</b> 79    | <b>13.</b> 2·97  | <b>14.</b> 3·86 | <b>15.</b> 5·38 |
|           | <b>16.</b> 5·642 | <b>17.</b> 7·916 | <b>18.</b> 8·493 | <b>19.</b> 27·3 | <b>20.</b> 49·8 |
|           | <b>21.</b> 76·4  | <b>22.</b> 9·78  | <b>23.</b> 3·76  | <b>24.</b> 8·92 | <b>25.</b> 9    |
|           | <b>26.</b> 14    | <b>27.</b> 16    | <b>28.</b> 18    | <b>29.</b> 30   | <b>30.</b> 63   |

**Written Computation**

- |                   |                 |                  |                  |                   |
|-------------------|-----------------|------------------|------------------|-------------------|
| <b>1.</b> 2·7     | <b>2.</b> 4·7   | <b>3.</b> 2·8    | <b>4.</b> 1·9    | <b>5.</b> 427     |
| <b>6.</b> 286     | <b>7.</b> 134   | <b>8.</b> 154    | <b>9.</b> 155    | <b>10.</b> 217    |
| <b>11.</b> 136    | <b>12.</b> 162  | <b>13.</b> 290R5 | <b>14.</b> 287R4 | <b>15.</b> 140R15 |
| <b>16.</b> 264R15 | <b>17.</b> 1·69 | <b>18.</b> 2·68  | <b>19.</b> 1·84  | <b>20.</b> 2·38   |

**Mental Problems**

- |           |                |                 |              |              |                |
|-----------|----------------|-----------------|--------------|--------------|----------------|
| (page 13) | <b>1.</b> 11   | <b>2.</b> 12    | <b>3.</b> 12 | <b>4.</b> 7  | <b>5.</b> 15   |
|           | <b>6.</b> 19   | <b>7.</b> 88    | <b>8.</b> 48 | <b>9.</b> €9 | <b>10.</b> €84 |
|           | <b>11.</b> €21 | <b>12.</b> €126 |              |              |                |

**Written Problems**

- |           |                  |                  |                 |                 |                  |
|-----------|------------------|------------------|-----------------|-----------------|------------------|
| (page 14) | <b>1.</b> 27     | <b>2.</b> 58     | <b>3.</b> 136   | <b>4.</b> 87R14 | <b>5.</b> 138R16 |
|           | <b>6.</b> 169R35 | <b>7.</b> 137R18 | <b>8.</b> 127R5 | <b>9.</b> €3·68 | <b>10.</b> 2·19  |
|           | <b>11.</b> 236   | <b>12.</b> €4·89 |                 |                 |                  |

**6. Lines and Angles**

- |            |                                |                                |                                 |
|------------|--------------------------------|--------------------------------|---------------------------------|
| (page 15)  | <b>(a)</b> obtuse              | <b>(b)</b> acute               | <b>(c)</b> right                |
|            | <b>(d)</b> reflex              | <b>(e)</b> straight            | <b>(f)</b> obtuse               |
| <b>2.</b>  | <b>(a)</b> 40°                 | <b>(b)</b> 85°                 | <b>(c)</b> 155° <b>(d)</b> 130° |
| <b>3.</b>  | graphics                       |                                |                                 |
| <b>4.</b>  | <b>(a)</b> 70°, 60°, 50°, 180° | <b>(b)</b> 65°, 65°, 50°, 180° | <b>(c)</b> 180°                 |
| <b>5.</b>  | <b>(a)</b> 60°                 | <b>(b)</b> 45°                 | <b>(c)</b> 85°                  |
| <b>6.</b>  | <b>(a)</b> 135°                | <b>(b)</b> 115°                | <b>(c)</b> 107°                 |
| <b>7.</b>  | <b>(a)</b> 180°                | <b>(b)</b> 135°                | <b>(c)</b> N <b>(d)</b> 135°    |
| <b>8.</b>  | <b>(a)</b> 30°                 | <b>(b)</b> 120°                | <b>(c)</b> 210° <b>(d)</b> 240° |
| <b>9.</b>  | <b>(a)</b> 65°                 | <b>(b)</b> 130°                | <b>(c)</b> 140°                 |
| <b>10.</b> | graphics                       |                                |                                 |

## 7. Fractions 1

### Mental Computation (A)

- (page 19)
- |                    |                    |                    |                   |
|--------------------|--------------------|--------------------|-------------------|
| 1. $\frac{4}{8}$   | 2. $\frac{6}{12}$  | 3. $\frac{6}{8}$   | 4. $\frac{4}{12}$ |
| 5. $\frac{8}{12}$  | 6. $\frac{4}{6}$   | 7. $\frac{6}{9}$   | 8. $\frac{2}{12}$ |
| 9. $\frac{10}{12}$ | 10. $\frac{3}{12}$ | 11. $\frac{9}{12}$ | 12. $\frac{1}{3}$ |
| 13. $\frac{4}{5}$  | 14. $\frac{1}{2}$  | 15. $\frac{3}{5}$  | 16. $\frac{1}{2}$ |
| 17. $\frac{1}{3}$  | 18. $\frac{1}{4}$  | 19. $\frac{3}{4}$  | 20. $\frac{1}{5}$ |

### Mental Computation (B)

- |                     |                     |                     |                     |                      |
|---------------------|---------------------|---------------------|---------------------|----------------------|
| 1. $1\frac{3}{4}$   | 2. $1\frac{5}{8}$   | 3. $3\frac{3}{5}$   | 4. $7\frac{2}{3}$   | 5. $2\frac{5}{6}$    |
| 6. $3\frac{9}{10}$  | 7. $3\frac{4}{9}$   | 8. $8\frac{4}{5}$   | 9. $3\frac{5}{12}$  | 10. $4\frac{11}{12}$ |
| 11. $5\frac{7}{9}$  | 12. $8\frac{7}{8}$  | 13. $\frac{5}{2}$   | 14. $\frac{13}{4}$  | 15. $\frac{23}{5}$   |
| 16. $\frac{31}{8}$  | 17. $\frac{29}{6}$  | 18. $\frac{19}{4}$  | 19. $\frac{61}{8}$  | 20. $\frac{53}{9}$   |
| 21. $\frac{31}{12}$ | 22. $\frac{53}{12}$ | 23. $\frac{89}{10}$ | 24. $\frac{91}{12}$ |                      |

### Written Computation (A)

- (page 20)
- |                      |                      |                     |                      |                      |
|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1. $3\frac{3}{4}$    | 2. $7\frac{2}{9}$    | 3. $4\frac{7}{12}$  | 4. 6                 | 5. $5\frac{7}{12}$   |
| 6. $3\frac{11}{12}$  | 7. $4\frac{13}{15}$  | 8. $5\frac{19}{20}$ | 9. $5\frac{23}{24}$  | 10. $4\frac{5}{12}$  |
| 11. $6\frac{7}{15}$  | 12. $4\frac{7}{12}$  | 13. $2\frac{2}{3}$  | 14. $2\frac{5}{8}$   | 15. $2\frac{3}{4}$   |
| 16. $2\frac{5}{9}$   | 17. $2\frac{11}{12}$ | 18. $4\frac{3}{4}$  | 19. $3\frac{13}{20}$ | 20. $3\frac{11}{15}$ |
| 21. $3\frac{13}{18}$ |                      |                     |                      |                      |

### Written Computation (B)

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

### Written Problems

- (page 21)
- |                    |                     |                    |                    |                   |
|--------------------|---------------------|--------------------|--------------------|-------------------|
| 1. $\frac{5}{6}$   | 2. $2\frac{11}{12}$ | 3. $4\frac{5}{12}$ | 4. $8\frac{7}{15}$ | 5. $1\frac{5}{8}$ |
| 6. $2\frac{7}{12}$ | 7. $4\frac{11}{15}$ | 8. $4\frac{3}{8}$  | 9. $\frac{3}{10}$  | 10. $\frac{1}{8}$ |
| 11. $\frac{2}{3}$  | 12. $\frac{1}{2}$   |                    |                    |                   |

## 8. Data 1

### Averages (A)

- (page 22)
- |         |             |           |            |        |
|---------|-------------|-----------|------------|--------|
| 1. 8    | 2. 10 years | 3. €12    | 4. 18 mins | 5. 16  |
| 6. 16   | 7. €4.14    | 8. €16.50 | 9. €15.22  | 10. 11 |
| 11. 21c | 12. €31.81  |           |            |        |

### Graphs and Charts (B)

- (page 23)
- |               |           |          |         |       |
|---------------|-----------|----------|---------|-------|
| 1. (a) Rovers | (b) Lions | (c) 9    |         |       |
| (d) (i) 24    | (ii) 19   | (iii) 13 | (iv) 10 | (v) 7 |

(e) 43 (f) 15 (g) 5

2. Graphics

- (page 24) 3. (a) (i) orange (ii) orange (b) (i) lemon (ii) lime  
 (c) orange (d) apple (e) 11 (f) 56 (g) 56 (h) 28  
 4. (a) year 6 (b) year 3 (c) €70 000 (d) year 4  
 (e) 4 (f) year 4 (g) year 6  
 (page 25) 5. (a) January (b) May (c) April and June  
 (d) March (e) April  
 6. (a) Saturday (b) Wednesday (c) Thursday (d) Monday  
 (e) 170 (f) 100 (g) Sunday

**9. Fractions 2**

**Mental Computation (A)**

- (page 26) 1.  $\frac{6}{9}$  2.  $\frac{9}{12}$  3.  $\frac{10}{18}$  4.  $\frac{12}{15}$  5.  $\frac{14}{16}$   
 6.  $\frac{15}{18}$  7.  $\frac{14}{20}$  8.  $\frac{15}{36}$  9.  $\frac{15}{20}$  10.  $\frac{15}{25}$   
 11.  $\frac{20}{36}$  12.  $\frac{35}{40}$  13.  $2\frac{3}{4}$  14.  $3\frac{5}{6}$  15.  $3\frac{8}{9}$   
 16.  $6\frac{5}{8}$  17.  $\frac{29}{6}$  18.  $\frac{31}{8}$  19.  $\frac{68}{9}$  20.  $\frac{89}{10}$

**Written Computation (B)**

1.  $\frac{1}{6}$  2.  $\frac{2}{15}$  3.  $\frac{3}{20}$  4.  $\frac{1}{10}$  5.  $\frac{4}{15}$   
 6.  $\frac{9}{40}$  7.  $\frac{8}{45}$  8.  $\frac{15}{32}$  9.  $\frac{35}{54}$  10. 8  
 11. 18 12. 24 13. 30 14. 24 15. 40  
 16. 36 17. 30 18. 60 19. 42 20. 56  
 21. 33 22.  $\boxed{2}$  23.  $\boxed{3}$  24.  $\boxed{4}$  25.  $\boxed{6}$   
 26.  $\boxed{5}$  27.  $\boxed{3}$

**Written Computation (A)**

- (page 27) 1.  $6\frac{1}{12}$  2.  $7\frac{4}{15}$  3.  $8\frac{1}{24}$  4.  $3\frac{3}{4}$  5.  $3\frac{17}{18}$   
 6.  $4\frac{9}{20}$  7.  $\frac{1}{2}$  8.  $\frac{3}{10}$  9.  $\frac{7}{30}$  10.  $\frac{7}{15}$   
 11.  $\frac{7}{27}$  12.  $\frac{5}{24}$  13.  $\frac{5}{8}$  14.  $\frac{3}{8}$  15.  $\frac{14}{27}$   
 16.  $\frac{1}{8}$  17.  $\frac{11}{27}$  18.  $\frac{3}{10}$  19. 72 20. 84  
 21. 88 22. 63 23. 96 24. 110

**Written Computation (B)**

1. 3 : 4 2. 2 : 3 3. 5 : 6 4. 2 : 3 5. 3 : 5  
 6. 2 : 5 7. 3 : 1 8. 4 : 3 9. 5 : 4 10. 5 : 2  
 11. 6 : 5 12. 7 : 3 13. 3 : 4 14. 1 : 4 15. 1 : 2  
 16. 4 : 5 17. 1 : 5 18. 3 : 5 19. 3 : 4 20. 1 : 4  
 21. 4 : 3 22. 1 : 3 23. 7 : 10 24. 3 : 4

**Mental Problems**

- (page 28) 1. 72 2. 56 3.  $\frac{1}{10}$  4. €60 5.  $\frac{5}{12}$   
 6.  $\frac{1}{4}$  7.  $\frac{4}{9}$  8. 3 : 4 9. €24 10. 28  
 11. €15 12. €40

**Written Problems**

- (page 29) 1.  $\frac{1}{4}$  2.  $\frac{3}{5}$  3. €32 4. 135 5. 9 : 7

6. 3 : 5      7. €112      8. €351      9. €78.75      10. €45.15  
 11. €58.20      12. 19

## 10. 2-D Shapes

- (page 30) 1. (a) isosceles (b) equilateral (c) scalene  
 2. (a) square (b) rectangle (c) rhombus (d) parallelogram  
 3. (a) pentagon (b) hexagon (c) octagon  
 4. (a)  $120^\circ$  (b) (i) 2 (ii) 3 (iii)  $108^\circ$  (c) (i) 5 (ii) 6 (iii)  $135^\circ$
- (page 31) 5. (a) square (b) rectangles (c) equilateral triangles (d) hexagons  
 6. (a) false (b) false (c) true (d) false (e) false  
 7. (a) 3 (b) 4 (c) 2 (d) 1 (e) 2 (f) 0 (g) 5 (h) 6 (i) 8
- (page 32) 8. C (4, 9), D (8, 8), E (2, 6), F (7, 3), G (5, 5), H (9, 4)  
 9. Graphic  
 10. (a) Graphic (b) square (c) Graphic (d) (5, 5) (e) 50

## 11. Decimals

### Mental Computation (A)

- (page 33) 1. 0.07      2. 0.23      3. 1.09      4. 2.37      5. 0.001  
 6. 0.007      7. 0.013      8. 0.059      9. 0.261      10. 0.379  
 11. 0.683      12. 0.967      13. 1.063      14. 3.089      15. 5.007  
 16. 9.003      17. 81.279      18. 9.687      19. 6.047      20. 7.369  
 21. 0.73      22. 0.039      23. 0.907      24. 0.071

### Mental Computation (B)

1. 4.039      2. 7.183      3. 9.007      4. 8.461      5. 7.5  
 6. 8.25      7. 6.75      8. 9.2      9. 3.8      10. 2.05  
 11. 7.45      12. 8.55      13. 6.793      14. 8.097      15. 4.371  
 16. 5.039      17. 2.785      18. 8.657      19. 4.768      20. 5.978  
 21. 9.426      22. 7.364      23. 8.645      24. 6.762

### Written Computation (A)

- (page 34) 1. 7.834      2. 8.418      3. 9.099      4. 9.293      5. 6.177  
 6. 2.859      7. 4.746      8. 2.546      9. 18.02      10. 46.993  
 11. 45.874      12. 51.434      13. 12.392      14. 8.463      15. 3.764  
 16. 8.493

### Written Computation (B)

1. 633.622      2. 155.736      3. 363.384      4. 815.732  
 5. 0.168      6. 0.137      7. 0.173      8. 0.129  
 9. 180.622      10. 351.759      11. 399.696      12. 551.237  
 13. 288.306      14. 199.433      15. 0.138      16. 0.127

### Mental Problems

- (page 35) 1.  $\frac{9}{1000}$       2.  $\frac{7}{1000}$       3. 8.24      4. 4.7  
 5. €9      6. 15      7. 0.4      8. 0.94  
 9. 45      10. 480      11. €80      12. 27

### Written Problems

- (page 36) 1. 64.225      2. 46.684      3. 29.876      4. 61.898  
 5. 18.664      6. €112      7. 3831      8. €34  
 9. 0.164      10. €155      11. €120      12. €87

**12. Test Yourself 1****Mental Computation (A)**

- (page 37)
- |            |              |                 |                 |                 |
|------------|--------------|-----------------|-----------------|-----------------|
| 1. 89 075  | 2. 100 024   | 3. 199 995      | 4. 472 003      | 5. 244 000      |
| 6. 396 000 | 7. 1 873 000 | 8. 2 875 000    | 9. 4837         | 10. 8495        |
| 11. 2870   | 12. 7400     | 13. 214·7       | 14. 364·39      | 15. 8700        |
| 16. 20 670 | 17. 17 290   | 18. 9476        | 19. 24·8        | 20. 3·867       |
| 21. 0·04   | 22. 4·372    | 23. 0·058       | 24. 0·009       | 25. 63          |
| 26. 35     | 27. 72       | 28. $\boxed{3}$ | 29. $\boxed{4}$ | 30. $\boxed{4}$ |

**Mental Computation (B)**

- |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1. $\frac{25}{30}$ | 2. $\frac{14}{18}$ | 3. $\frac{35}{56}$ | 4. $\frac{28}{48}$ | 5. $\frac{8}{45}$  |
| 6. $\frac{21}{32}$ | 7. $\frac{28}{45}$ | 8. $\frac{9}{40}$  | 9. 6               | 10. 30             |
| 11. 56             | 12. 63             | 13. 0·057          | 14. 5·234          | 15. 8·009          |
| 16. 7·013          | 17. 8·397          | 18. 9·073          | 19. 8·75           | 20. 4·375          |
| 21. 7·8            | 22. 3·05           | 23. 4·45           | 24. 7·46           | 25. 9·55           |
| 26. 6·35           | 27. $6\frac{4}{5}$ | 28. $8\frac{5}{6}$ | 29. $8\frac{7}{8}$ | 30. $9\frac{7}{9}$ |

**Written Computation (A)**

- (page 38)
- |            |            |            |            |             |
|------------|------------|------------|------------|-------------|
| 1. 741·78  | 2. 2768·77 | 3. 3452·68 | 4. 6246·65 | 5. 5859·82  |
| 6. 176·316 | 7. 385·296 | 8. 555·921 | 9. 405·756 | 10. 621·256 |
| 11. 236    | 12. 203R34 | 13. 294R11 | 14. 182R48 | 15. 204R7   |
| 16. 1·47   | 17. 2·19   | 18. 1·73   | 19. 1·39   | 20. 1·09    |

**Written Computation (B)**

- |                    |                     |                     |                     |                   |
|--------------------|---------------------|---------------------|---------------------|-------------------|
| 1. $6\frac{5}{12}$ | 2. $11\frac{1}{24}$ | 3. $3\frac{13}{18}$ | 4. $2\frac{13}{20}$ | 5. $\frac{5}{27}$ |
| 6. $\frac{1}{10}$  | 7. $\frac{4}{15}$   | 8. 84               | 9. 126              | 10. 5 : 7         |
| 11. 2 : 5          | 12. 11 : 20         | 13. 0·268           | 14. 0·208           | 15. 0·127         |
| 16. 0·159          | 17. 318·825         | 18. 656·336         | 19. 0·238           | 20. 0·167         |

**Mental Problems**

- (page 39)
- |          |             |                   |        |         |
|----------|-------------|-------------------|--------|---------|
| 1. €3·96 | 2. €1·20    | 3. €89·50         | 4. 27  | 5. 50   |
| 6. €1·50 | 7. 10 years | 8. $\frac{7}{12}$ | 9. €35 | 10. 5·9 |
| 11. 300  | 12. €120    |                   |        |         |

**Written Problems**

- (page 40)
- |            |                   |                  |              |          |
|------------|-------------------|------------------|--------------|----------|
| 1. 275 065 | 2. 1522·53        | 3. 110·461       | 4. 347·245km | 5. 76R56 |
| 6. €3·65   | 7. $\frac{7}{12}$ | 8. $\frac{1}{4}$ | 9. 15        | 10. €119 |
| 11. €51·87 | 12. €136          |                  |              |          |

**13. Multiplication and Division****Mental Computation**

- (page 41)
- |          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 1. 1·8   | 2. 2·8   | 3. 1·5   | 4. 1·6   | 5. 2·7   |
| 6. 4·2   | 7. 0·08  | 8. 0·07  | 9. 0·06  | 10. 0·12 |
| 11. 0·05 | 12. 0·24 | 13. 0·45 | 14. 0·56 | 15. 0·72 |
| 16. 0·4  | 17. 0·9  | 18. 0·8  | 19. 0·08 | 20. 0·06 |
| 21. 0·07 | 22. 0·09 | 23. 0·07 | 24. 0·09 | 25. 3    |
| 26. 8    | 27. 7    | 28. 4    | 29. 9    | 30. 8    |

**Written Computation**

- |           |           |           |           |            |
|-----------|-----------|-----------|-----------|------------|
| 1. 9·45   | 2. 9·52   | 3. 32·43  | 4. 221·61 | 5. 528·08  |
| 6. 11·376 | 7. 54·795 | 8. 44·226 | 9. 60·431 | 10. 36·354 |

11. 181·568    12. 564·774    13. 137·286    14. 325·508    15. 697·404  
 16. 28·4    17. 26·8    18. 16·7    19. 23·8    20. 12·6  
 21. 43·7    22. 34·9    23. 13·6    24. 16·7    25. 16·3  
 (page 42) 26. 249    27. 195    28. 162    29. 128    30. 109

**Mental Problems**

1. 40c    2. 0·75    3. 12    4. €1·10    5. €285  
 6. €36    7. 45    8. 0·375    9. €24    10. 0·56  
 11. 0·9    12. €56

**Written Problems**

- (page 43) 1. 256·12    2. 513·42    3. 386·88    4. 84·912km    5. 4·032km  
 6. 236·115km    7. 37·743km    8. 44·308kg    9. 2·46    10. 24  
 11. 27    12. 86

**14. Number Theory**

- A. (page 44) 1. 2, 7, 19, 37, 53    2. 9, 21, 39, 63    3. 71, 73, 79, 83, 89, 97  
 4. 72, 74, 75, 76, 77, 78, 80, 81, 82, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96, 98, 99  
 5. 28, 35, 49, 56, 63, 77    6. 36, 60, 72, 96, 108  
 7. (a) (1, 2, 3, 4, 6, 8, 12, 24)    (b) (1, 2, 3, 5, 6, 10, 15, 30)  
 (c) (1, 2, 3, 6)  
 8. (a) 4    (b) 3    (c) 6    (d) 9    (e) 12    (f) 15  
 9. (a) (3, 6, 9, 12, 15, 18)    (b) (5, 10, 15, 20, 25, 30)  
 (c) 15    (d) 30, 45, 60, 75  
 10. (a) 20    (b) 24    (c) 36    (d) 60    (e) 75    (f) 80  
 11. (a) 2    (b) 4    (c) 6    (d) 9    (e) 12    (f) 15  
 12. (a) 12    (b) 20    (c) 24    (d) 30    (e) 36    (f) 60
- B. (page 45) 1. 4, 9, 16, 25, 36    2. 49, 64, 81, 100, 121, 144    3. 25  
 4. (a) 49    (b) 81    (c) 121    (d) 169    (e) 256  
 5. (a) 19    (b) 23    (c) 35    (d) 41    (e) 49  
 6. (a) 7    7. (a) 4    (b) 6    (c) 8    (d) 10    (e) 12    (f) 20  
 8. 8cm    9. 11cm  
 10. (a) 13    (a) 15    (b) 16    (c) 14    (d) 25    (e) 30
- C. (page 46) 1. (a)  $7^2$     (b)  $9^2$     (c)  $10^2$     (d)  $12^2$     (e)  $20^2$   
 2. (a) 27    (b) 64    (c) 32    (d) 125    (e) 1000  
 3. (a) 24    (b) 36    (c) 50    (d) 54  
 (e) 48    (f) 100    (g) 700    (h) 72  
 4. (a)  $5 \times 2^2$     (b)  $5 \times 2^3$     (c)  $2 \times 3^3$     (d)  $2^3 \times 3^3$   
 (e)  $3 \times 2^4$     (f)  $2 \times 5^2$     (g)  $10^2$     (h)  $2 \times 10^2$   
 5. (a) 2567    (b) 6849    (c) 9438  
 6. 

$10^3$	$10^2$	$10^1$	1
(a) 3	8	4	5
(b) 7	6	0	9

$10^3$	$10^2$	$10^1$	1
(c) 9	7	2	8
(d) 8	0	5	9

**15. Percentages**

**Mental Computation**

- (page 47) 1. 70%    2. 9%    3. 27%    4. 50%    5. 25%  
 6. 75%    7. 20%    8. 80%    9. 5%    10. 35%



- |                       |                       |                       |                      |                       |
|-----------------------|-----------------------|-----------------------|----------------------|-----------------------|
| 11. 45%               | 12. 55%               | 13. $\frac{9}{10}$    | 14. $\frac{43}{100}$ | 15. $\frac{2}{5}$     |
| 16. $\frac{3}{5}$     | 17. $\frac{3}{20}$    | 18. $\frac{1}{50}$    | 19. $\frac{19}{20}$  | 20. $\frac{17}{20}$   |
| 21. 47%               | 22. 8%                | 23. 60%               | 24. 13%              | 25. $12\frac{1}{2}\%$ |
| 26. $37\frac{1}{2}\%$ | 27. $62\frac{1}{2}\%$ | 28. $87\frac{1}{2}\%$ | 29. $8\frac{1}{2}\%$ | 30. $2\frac{1}{2}\%$  |
| 31. $17\frac{1}{2}\%$ | 32. $22\frac{1}{2}\%$ |                       |                      |                       |

**Written Computation**

- |           |         |         |          |         |         |
|-----------|---------|---------|----------|---------|---------|
| (page 47) | 1. 87   | 2. 68   | 3. 192   | 4. 239  | 5. 57   |
|           | 6. 258  | 7. 38   | 8. 63    | 9. 238  | 10. 517 |
|           | 11. 585 | 12. 714 | 13. 122  | 14. 276 | 15. 420 |
|           | 16. 518 | 17. 165 | 18. 196  | 19. 558 | 20. 920 |
|           | 21. 767 | 22. 874 | 23. 1287 | 24. 628 | 25. 837 |
|           | 26. 537 | 27. 624 | 28. 147  | 29. 314 | 30. 188 |

**Mental Problems**

- |           |         |        |       |       |        |
|-----------|---------|--------|-------|-------|--------|
| (page 48) | 1. 35%  | 2. 280 | 3. 22 | 4. 64 | 5. 15% |
|           | 6. 45   | 7. 32  | 8. 72 | 9. 28 | 10. 35 |
|           | 11. €60 | 12. 78 |       |       |        |

**Written Problems**

- |           |           |          |         |         |                       |
|-----------|-----------|----------|---------|---------|-----------------------|
| (page 49) | 1. 706    | 2. 171   | 3. €220 | 4. 1794 | 5. 108                |
|           | 6. €390   | 7. 95km  | 8. €760 | 9. 700  | 10. $62\frac{1}{2}\%$ |
|           | 11. €1650 | 12. €442 |         |         |                       |

**16. Fractions, Decimals and Percentages**

**Mental Computation**

- |           |                       |                      |                       |                       |                       |
|-----------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|
| (page 50) | 1. 9%                 | 2. 30%               | 3. 14%                | 4. 60%                | 5. 45%                |
|           | 6. 4%                 | 7. $37\frac{1}{2}\%$ | 8. $33\frac{1}{3}\%$  | 9. 80%                | 10. 7%                |
|           | 11. 73%               | 12. 19%              | 13. $42\frac{1}{2}\%$ | 14. $62\frac{1}{2}\%$ | 15. $87\frac{1}{2}\%$ |
|           | 16. $22\frac{1}{2}\%$ | 17. $\frac{4}{5}$    | 18. $\frac{3}{50}$    | 19. $\frac{1}{8}$     | 20. $\frac{11}{20}$   |
|           | 21. $\frac{17}{20}$   | 22. $\frac{3}{8}$    | 23. $\frac{1}{3}$     | 24. $\frac{2}{3}$     | 25. 0.03              |
|           | 26. 0.68              | 27. 0.9              | 28. 0.875             | 29. 0.225             | 30. 0.085             |
|           | 31. 0.065             | 32. 0.667            |                       |                       |                       |

**Written Computation**

- |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|
| 1. 2086   | 2. 2319   | 3. 4779   | 4. 9.35   | 5. 58.36  |
| 6. 38.42  | 7. 70.95  | 8. 299.46 | 9. 527.58 | 10. 5.47  |
| 11. 29.61 | 12. 58.45 | 13. 2236  | 14. 1104  | 15. 2443  |
| 16. 4771  | 17. 2688  | 18. 5103  | 19. 4840  | 20. 11037 |
| 21. 9723  | 22. 7414  | 23. 6461  | 24. 7912  | 25. 5108  |
| 26. 4573  | 27. 8649  | 28. 5551  | 29. 3102  | 30. 781   |

**Mental Problems**

- |           |          |         |         |                      |         |
|-----------|----------|---------|---------|----------------------|---------|
| (page 51) | 1. 45%   | 2. 60   | 3. 25%  | 4. 12                | 5. 27   |
|           | 6. €1.80 | 7. 94%  | 8. 0.75 | 9. $62\frac{1}{2}\%$ | 10. €80 |
|           | 11. 65%  | 12. €90 |         |                      |         |

**Written Problems**

- |           |         |           |           |            |        |
|-----------|---------|-----------|-----------|------------|--------|
| (page 52) | 1. 3059 | 2. €50.20 | 3. €17.19 | 4. €113.60 | 5. 208 |
|-----------|---------|-----------|-----------|------------|--------|

6. 192      7. €69      8. 1350      9. €127.02      10. €609  
 11. €952      12. 520

## 17. Length

### Mental Computation

- (page 53)
- |             |             |             |            |
|-------------|-------------|-------------|------------|
| 1. 9mm      | 2. 87mm     | 3. 158mm    | 4. 96mm    |
| 5. 174mm    | 6. 2.35m    | 7. 6.04m    | 8. 3.75m   |
| 9. 8.09m    | 10. 4.75m   | 11. 3.475km | 12. 8.59km |
| 13. 6.008km | 14. 2.095km | 15. 4.007km | 16. 2385m  |
| 17. 4068m   | 18. 8050m   | 19. 9006m   | 20. 7800m  |
| 21. 3800m   | 22. 4150m   | 23. 7125m   | 24. 2625m  |
| 25. 8450m   |             |             |            |

### Written Computation

- |                        |              |              |              |
|------------------------|--------------|--------------|--------------|
| 1. 48.34m              | 2. 34.78m    | 3. 44.68m    | 4. 43.83m    |
| 5. 1.44m               | 6. 14.243km  | 7. 22.668km  | 8. 7.578km   |
| 9. 48.636km            | 10. 0.996km  | 11. 50.97m   | 12. 19.655km |
| 13. 41.608km           | 14. 50.589km | 15. 62.476km | 16. 10.038km |
| (page 54) 17. 207.72mm | 18. 78.3km   | 19. 7.41m    | 20. 8.6km    |

### Mental Problems

- |                    |           |         |          |
|--------------------|-----------|---------|----------|
| 1. 2.5cm           | 2. 8.5m   | 3. 350m | 4. €8.75 |
| 5. 3.6km           | 6. 34km   | 7. 120m | 8. 65km  |
| 9. 132km           | 10. 49m   |         |          |
| (page 55) 11. 78km | 12. €2.10 |         |          |

### Written Problems

- |             |            |             |           |
|-------------|------------|-------------|-----------|
| 1. 55.9cm   | 2. 26.15m  | 3. 29.235km | 4. 34.02m |
| 5. 3.75m    | 6. 30.92km | 7. 19.25km  | 8. 114km  |
| 9. 83.955km | 10. 7.9cm  | 11. €12.35  | 12. 189km |

## 18. Time

### Mental Computation

- (page 56)
- |                |                |                |                |
|----------------|----------------|----------------|----------------|
| 1. 2hrs 14mins | 2. 2hrs 56mins | 3. 3hrs 28mins | 4. 3hrs 55mins |
| 5. 148mins     | 6. 167mins     | 7. 199mins     | 8. 283mins     |
| 9. 03:25       | 10. 14:48      | 11. 17:36      | 12. 21:54      |
| 13. 7.42am     | 14. 4.28pm     | 15. 8.46pm     | 16. 11:38pm    |
| 17. 1hr 45m    | 18. 1hr 35m    | 19. 3hrs 15m   | 20. 3hrs 45m   |

### Written Computation

- |                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| 1. 8hrs 26mins  | 2. 9hrs 41mins  | 3. 3hrs 54mins  | 4. 4hrs 46mins  |
| 5. 4hrs 18mins  | 6. 9hrs 52mins  | 7. 18hrs 5mins  | 8. 10hrs 42mins |
| 9. 1hr 39mins   | 10. 1hr 42mins  | 11. 3hrs 45mins | 12. 5hrs 37mins |
| 13. 4hrs 34mins | 14. 4hrs 46mins | 15. 7hrs 47mins | 16. 8hrs 41mins |

### Mental Problems

- (page 57)
- |           |            |           |                |
|-----------|------------|-----------|----------------|
| 1. 16:05  | 2. 08:23   | 3. 19:40  | 4. 2hrs 25mins |
| 5. 13:20  | 6. 125km   | 7. 60km/h | 8. 60km/h      |
| 9. 28km/h | 10. 7.00am | 11. 18:00 | 12. 06:30      |

### Written Problems

- (page 58)
- |                |                |                |                |
|----------------|----------------|----------------|----------------|
| 1. 2hrs 40mins | 2. 2hrs 35mins | 3. 5hrs 28mins | 4. 2hrs 27mins |
| 5. €700        | 6. 180km       | 7. 66km/h      | 8. 15:40       |
| 9. 21:30       | 10. 20:45      | 11. 11:15      | 12. 13:30      |

**19. Area****Mental Computation (A)**

- (page 59) 1.  $10\text{cm}^2$       2.  $8\text{cm}^2$       3.  $6\text{cm}^2$       4.  $9\text{cm}^2$   
 5.  $10\text{cm}^2$       6.  $8\text{cm}^2$       7.  $40\text{cm}^2$       8.  $63\text{cm}^2$   
 9.  $96\text{cm}^2$       10.  $28\text{cm}^2$       11.  $56\text{cm}^2$       12.  $99\text{cm}^2$   
 13.  $72\text{cm}^2$       14.  $24\text{cm}$       15.  $30\text{cm}$       16.  $38\text{cm}$   
 17.  $46\text{cm}$

**Mental Computation (B)**

- (page 60) 1.  $45\text{m}^2$       2.  $70\text{m}^2$       3.  $88\text{m}^2$

4.

	(a)	(b)	(c)	(d)	(e)	(f)
length	8m	7m	9m	12m	9m	12m
width	5m	6m	4m	7m	6m	8m
perimeter	26m	26m	26m	38m	30m	40m
area	$40\text{m}^2$	$42\text{m}^2$	$36\text{m}^2$	$84\text{m}^2$	$54\text{m}^2$	$96\text{m}^2$

5. (i)  $64\text{m}^2$  (ii)  $32\text{m}$       6. (i)  $144\text{m}^2$  (ii)  $48\text{m}$       7. (i)  $400\text{m}^2$  (ii)  $80\text{m}$   
 8.  $24\text{cm}^2$       9.  $54\text{cm}^2$       10.  $96\text{cm}^2$   
 11. (a)  $2\text{m}^2$  (b)  $6\text{m}^2$  (c)  $9\text{m}^2$       12. (a) 3 ares (b) 8 ares (c) 12 ares  
 13. (a) 4 hectares (b) 9 hectares (c) 15 hectares

**Written Computation**

- (page 61) 1. (i)  $20\text{cm}^2$  (ii)  $30\text{cm}$       2. (i)  $14\text{cm}^2$  (ii)  $22\text{cm}$       3. (i)  $25\text{cm}^2$  (ii)  $26\text{cm}$   
 4. (i)  $36\text{cm}^2$  (ii)  $34\text{cm}$       5.  $294\text{cm}^2$       6.  $92\text{cm}^2$   
 7. (i)  $300\text{m}^2$  (ii) 3ares      8.  $1700\text{m}^2$       9. 1850 ares  
 10. 68.5 hectares

**Mental Problems**

- (page 62) 1.  $180\text{cm}^2$       2.  $36\text{m}^2$       3.  $120\text{m}^2$       4.  $63\text{m}^2$   
 5.  $32\text{cm}$       6.  $121\text{cm}^2$       7.  $48\text{cm}$       8. €640  
 9.  $150\text{cm}^2$       10.  $28\text{cm}^2$       11.  $3600\text{m}^2$       12. 210 ares

**Written Problems**

- (page 63) 1.  $672\text{cm}^2$       2.  $84\text{m}$       3.  $2592\text{m}^2$       4. €1218  
 5.  $540\text{m}^2$       6. €1088      7.  $486\text{cm}^2$       8.  $320\text{cm}^2$   
 9.  $22\text{m}^2$       10. (i)  $5000\text{m}^2$  (ii) 50 ares  
 11.  $36\text{m}$       12. 15 hectares

**20. Money — Profit and Loss****Mental Computation**

- (page 64) 1. €2.50      2. €6.35      3. €5.85      4. €11.70      5. €7.55  
 6. €4.65      7. €24      8. €48      9. €40      10. €42  
 11. €12      12. €21      13. €27      14. €63      15. €21  
 16. €45      17. €9      18. €18      19. €63      20. €27  
 21. €27      22. €7      23. €9      24. €16      25. €42  
 26. €75      27. €63      28. €81      29. €24      30. €150

**Written Computation**

1. €45      2. €380      3. €465      4. €666      5. €40.11  
 6. €1056      7. €69.12      8. €552      9. €278      10. €23.78  
 11. €358      12. €470

13.

	cost price	selling price	actual profit	fraction profit	% profit
(a)	€12	€15	€3	$\frac{1}{4}$	25%
(b)	€50	€60	€10	$\frac{1}{5}$	20%
(c)	€48	€54	€6	$\frac{1}{8}$	$12\frac{1}{2}\%$
(d)	€60	€80	€20	$\frac{1}{3}$	$33\frac{1}{3}\%$

14.

	cost price	selling price	loss	fraction profit	% profit
(a)	€15	€12	€3	$\frac{1}{5}$	20%
(b)	€16	€12	€4	$\frac{1}{4}$	25%
(c)	€30	€20	€10	$\frac{1}{3}$	$33\frac{1}{3}\%$
(d)	€40	€35	€5	$\frac{1}{8}$	$12\frac{1}{2}\%$

(page 65) 15.

	selling price	profit	cost price
(a)	€25	25%	€20
(b)	€36	20%	€30
(c)	€24	$33\frac{1}{3}\%$	€18

16.

	selling price	profit	cost price
(a)	€60	20%	€75
(b)	€54	25%	€72
(c)	€42	$12\frac{1}{2}\%$	€48

**Mental Problems**

1. €75      2. €405      3. €36      4. 20%      5. 25%  
 6. €50      7. €30      8. €52      9. €35      10. €48  
 11. \$24      12. 45 sw.fr.

**Written Problems**

- (page 66) 1. €7.75      2. €11.44      3. €69.20      4. €552      5. €160  
 6. 20%      7. 25%      8. €432      9. €59.50      10. €600  
 11. €112      12. €245

**21. Algebra — Directed Numbers**

- (page 67) 1. 12      2. 17      3. 9      4. 13  
 5. (a)  $9^\circ$  (b)  $13^\circ$  (c)  $18^\circ$  (d)  $25^\circ$  (e)  $7^\circ$  (f)  $29^\circ$   
 6. (a)  $7^\circ$  (b)  $12^\circ$  (c)  $14^\circ$  (d)  $13^\circ$  (e)  $13^\circ$  (f)  $4^\circ$   
 7. (a)  $9^\circ$  (b)  $21^\circ$  (c)  $22^\circ$  (d)  $8^\circ$  (e)  $9^\circ$  (f)  $21^\circ$  (g)  $12^\circ$  (h)  $13^\circ$   
 (page 68) 8. 46 mins      9. 53      10. 42 floors      11. €66  
 12. (a) -2 (b) -3 (c) -4 (d) -1 (e) +7 (f) -8 (g) -4 (h) +4  
 13. +4°      14. +€6      15. +€14

**22. The Circle**

- (page 69) 1. (a) circumference (b) arc (c) centre (d) radius (e) diameter

2.

	radius	diameter	approximate circumference
(a)	7cm	14cm	42cm
(b)	8cm	16cm	48cm
(c)	12cm	24cm	72cm
(d)	15cm	30cm	90cm

3. (a)  $12\text{cm}^2$       (b)  $16\text{cm}^2$       (c)  $23\text{cm}^2$   
 (page 70) 4. (a) c.  $19\text{cm}^2$       (b) c.  $27\text{cm}^2$

5.

	radius	diameter	approximate circumference	approximate area
(a)	4cm	8cm	24cm	48cm <sup>2</sup>
(b)	6cm	12cm	36cm	108cm <sup>2</sup>
(c)	8cm	16cm	48cm	192cm <sup>2</sup>
(d)	10cm	20cm	60cm	300cm <sup>2</sup>

6. Graphics  
7. Graphics

### 23. Weight

#### Mental Computation

- (page 71)
- |               |             |             |             |
|---------------|-------------|-------------|-------------|
| 1. (a) 2085g  | (b) 4009g   | (c) 6245g   | (d) 3750g   |
| (e) 8400g     | (f) 7125g   | (g) 4070g   | (h) 6800g   |
| 2. (a) 3.78kg | (b) 4.009kg | (c) 2.085kg | (d) 9.007kg |
| (e) 5.3g      | (f) 2.8kg   | (g) 3.625kg | (h) 4.875kg |
| 3. (a) 365g   | (b) 375g    | (c) 215g    | (d) 630g    |
| 4. (a) 6      | (b) 9       | (c) 15      | (d) 19      |
| 5. (a) 4      | (b) 7       | (c) 12      | (d) 6       |

#### Written Computation

- |                       |              |             |             |
|-----------------------|--------------|-------------|-------------|
| 1. 9.515kg            | 2. 16.6kg    | 3. 11.365kg | 4. 15.925kg |
| 5. 1.935kg            | 6. 2.81kg    | 7. 16.695kg | 8. 64.8kg   |
| (page 72) 9. 14.295kg | 10. 26.425kg | 11. 2.793kg | 12. 0.93kg  |

#### Mental Problems

- |           |           |           |           |
|-----------|-----------|-----------|-----------|
| 1. 2780g  | 2. 16     | 3. €7.50  | 4. 7      |
| 5. €1.60  | 6. 8      | 7. 20c    | 8. €6.60  |
| 9. 18.6kg | 10. €1.50 | 11. €1.25 | 12. €4.90 |

#### Written Problems

- (page 73)
- |             |             |           |            |
|-------------|-------------|-----------|------------|
| 1. 16.065kg | 2. 1.988kg  | 3. €15.07 | 4. €7.83   |
| 5. €2.44    | 6. €13.36   | 7. €37.62 | 8. €3.32   |
| 9. 53.675kg | 10. 6.957kg | 11. 64c   | 12. €11.70 |

### 24. 3-D shapes

- (page 74)
- |                         |                      |              |            |
|-------------------------|----------------------|--------------|------------|
| 1. (a) triangular prism | (b) tetrahedron      | (c) pyramid  | (d) cube   |
| 2. (a) tetrahedron      | (b) triangular prism | (c) pyramid  | (d) cuboid |
| 3. (a) octahedron       | 4. (a) 8             | (b) triangle | (c) 6      |
|                         |                      | (d) 12       |            |

(page 75)

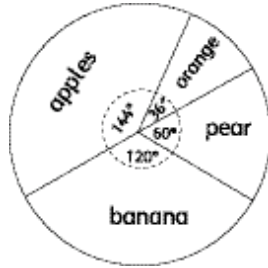
5.

	triangular faces	square faces	rectangular faces	edges	vertices
(a)	cuboid	0	0	6	12
(b)	tetrahedron	4	0	0	6
(c)	pyramid	4	1	0	8
(d)	octahedron	8	0	0	12
(e)	tri.prism	2	0	3	9

- |                            |                         |        |        |        |
|----------------------------|-------------------------|--------|--------|--------|
| 6. (a) 8                   | (b) 12                  | (c) 27 | (d) 16 | (e) 36 |
| 7. (a) 54 cubes            | (e) 42 cubes            |        |        |        |
| 8. (a) 294 cm <sup>2</sup> | (e) 136 cm <sup>2</sup> |        |        |        |

### 25. Data 2

- (page 76) 1. (a) 11 years 10 mths (b) 1 (c) 3  
 2. (a) 1.58m (b) 3 (c) 2  
 3. (a) 39.8kg (b) 2 (c) 3  
 4. (a) 8°C (b) 17°C  
 (page 77) (c) 9°C (d) 10°C  
 (e) 15°C (f) 12.5°C  
 (g) graphic (h) no  
 5. (i)  $A = \frac{1}{2}$ ,  $B = \frac{1}{3}$ ,  $C = \frac{1}{6}$   
 (ii)  $D = \frac{3}{8}$ ,  $E = \frac{1}{6}$ ,  $F = \frac{1}{4}$ ,  $G = \frac{1}{8}$ ,  $H = \frac{1}{12}$   
 6. A = (i)  $33\frac{1}{3}\%$  (ii)  $\frac{1}{3}$  (iii) €30  
 B = (i) 30% (ii)  $\frac{3}{10}$  (iii) €27  
 C = (i) 20% (ii)  $\frac{1}{5}$  (iii) €18  
 D = (i)  $16\frac{2}{3}\%$  (ii)  $\frac{1}{6}$  (iii) €15  
 7. (a)



- (b) (i) 40% (iii)  $33\frac{1}{3}\%$   
 (ii)  $16\frac{2}{3}\%$  (iv) 10%

### 26. Capacity

#### Mental Computation

- (page 78) 1. (a) 2095ml (b) 5008ml (c) 4360ml (d) 6750ml  
 (e) 8800ml (f) 6375ml (g) 5070ml (h) 7900ml  
 2. (a) 4.36l (b) 5.006l (c) 3.045l (d) 7.005l  
 (e) 4.7l (f) 3.625l (g) 1.875l (h) 6.05l  
 3. (a) 555ml (b) 430ml (c) 625ml (d) 850ml  
 4. (a) 5 (b) 11 (c) 19 (d) 23  
 5. (a) 4 (b) 6 (c) 8 (d) 10

#### Written Computation

1. 14.595l 2. 12.94l 3. 13.245l 4. 11.1l  
 5. 5.905l 6. 3.73l  
 (page 79) 7. 7.005l 8. 59.22l 9. 14.175l 10. 47.655l  
 11. 2.753l 12. 0.895l

#### Mental Problems

1. 1750ml 2. 1250ml 3. 12 4. €6.50  
 5. €2.40 6. 8 7. €7 8. €12  
 9. €650 10. €1.30 11. €3.40 12. €5.60

#### Written Problems

- (page 80) 1. 30.695l 2. 3.428l 3. €11.61 4. €6.65  
 5. €5.34 6. €10.05 7. 32c 8. €23.05  
 9. €1.87 10. €1.26 11. €12.92 12. €4.88

### 27. The Calculator

- A. (page 81) 1. 8606·3      2. 927·611      3. 857·76      4. 6·8  
 5. 8·6      6. 6·4      7. 37      8. 45  
 9. 54      10. 67      11. 2401      12. 6561  
 13. 1024      14. 7776      15. 540      16. 384  
 17. 96      18. 875

- B. (page 82) 1. (a) 80%      (b) 75%      (c) 15%      (d) 48%      (e) 87·5%  
 2. (a) 33·33%      (b) 16·66%      (c) 62·5%      (d) 8·33%      (e) 58·33%

3.

bill	discount	to pay
€235	20%	€188
€475	16%	€399
€368	12·5%	€322

bill	discount	to pay
€34·50	20%	€27·60
€46·80	7·5%	€43·29
€73·20	22·5%	€56·73

4.

bill	VAT	to pay
€472	12·5%	€531
€675	16%	€783
€500	21%	€605

cost p.	profit	selling price
€585	20%	€702
€760	17·5%	€893
€376	37·5%	€517

5. (a) €5014

### 28. Algebra: Equations, Variables, Sequences

- A. (page 83) 1. (a) 9      (b) 8      (c) 23      (d) 37      (e) 6  
 (f) 12      (g) 7      (h) 60      (i) 41  
 2. (a) 12      (b) 37      (c) 42      (d) 27      (e) 36  
 (f) 9      (g) 72      (h) 7      (i) 16  
 3. (a) 9      (b) 7      (c) 6      (d) 9      (e) 8  
 (f) 7      (g) 5      (h) 7      (i) 9  
 4. (a) 8      (b) 7      (c) 9      (d) 7      (e) 6  
 (f) 11      (g) 4      (h) 6      (i) 4  
 5. (a) 27      (b) 16      (c) 30      (d) 63      (e) 64  
 (f) 42      (g) 72      (h) 81

- (page 84) 6.  $x - 17 = 25$       7.  $x + 16 = 53$       8.  $\frac{4}{3}x = 36$   
 $x = 42$        $x = 37$        $x = 81$

9.  $\frac{3}{5}x = 45$       10.  $\frac{x}{6} = 24$   
 $x = 75$        $x = 144m$

11. (a) 749      (b) 676      12. (a) 125      (b) 149      13. (a) 73      (b) 3409  
 14. (a) 59      (b) 175      15. (a) +, x      (b) +, -      16. (a) -, x      (b) x, -  
 17. (a) ÷, x      (b) -, x      18. (a) +, +      (b) ÷, +      19. (a) ÷, -      (b) +, x

20.

time	2hrs	2½hrs	3hrs	3½hrs	4hrs	2½hrs
speed km/h	27	28	34	36	26	36
distance km	54	70	102	126	104	90

(page 85) 21.

length	width	area	perimeter
14cm	9cm	126cm <sup>2</sup>	46cm
14cm	12cm	168cm <sup>2</sup>	52cm
14cm	13cm	182cm <sup>2</sup>	54cm
18cm	16cm	288cm <sup>2</sup>	68cm

22. (a) 12 (b) 20 (c) 8 (d) 7 (e) 72 (f) 96

B.

1. (a) 60, 72, 84 (b) 33, 40, 47 (c) 46, 37, 28  
 (d) 45, 33, 21 (e) 3·7, 4·3, 4·9 (f) 5·5, 4·8, 4·1
2. (a) 25, 36, 49 (b) 15, 21, 28 (c) 21, 31, 43  
 (d) 26, 37, 50 (e) 32, 64, 128 (f) 77, 71, 64
3. (a)  $\frac{4}{12}, \frac{5}{15}, \frac{6}{18}$  (b)  $\frac{12}{16}, \frac{15}{20}, \frac{18}{24}$  (c)  $\frac{20}{24}, \frac{25}{30}, \frac{30}{36}$   
 (d)  $\frac{28}{48}, \frac{35}{60}, \frac{42}{72}$  (e)  $\frac{16}{36}, \frac{20}{45}, \frac{24}{54}$  (f)  $\frac{32}{60}, \frac{40}{75}, \frac{48}{90}$

4. (a) 8:4 (b) 20:28 (c) 36:8 (d) 28:16 (e) 12:32 (f) 24:20

## 29. Chance

A. (page 86)

1. no 2. (i) 1 in 4 (ii) 1 in 4 (iii) even chance

B.

1. (a) 11 (b) 7 (c) 6 in 36, 1 in 6 (d) 8  
 (e) 4 in 36, 1 in 9 (f) 1 in 12 (g) 1 in 18 (h) 1 in 36

C. (page 87)

1. (a) red (b) graphic (c) graphic (d) no

(e)

red	1 in 2	$\frac{1}{2}$	0.5	50%
blue	3 in 10	$\frac{3}{10}$	0.3	30%
yellow	1 in 5	$\frac{1}{5}$	0.2	20%

2. (i)

green	2 in 5	$\frac{2}{5}$	0.4	40%
red	3 in 10	$\frac{3}{10}$	0.3	30%
blue	1 in 5	$\frac{1}{5}$	0.2	20%
yellow	1 in 10	$\frac{1}{10}$	0.1	10%

(ii) (a) 20 (b) 15 (c) 10 (d) 5

3. (i) 4 (ii) 4 (iii) 2

D. (page 88)

lion	3 in 8	$\frac{3}{8}$	0.375	37½%
tiger	1 in 4	$\frac{1}{4}$	0.25	25%
leopard	1 in 4	$\frac{1}{4}$	0.25	25%
cheetah	1 in 8	$\frac{1}{8}$	0.125	12½%

E.

- (a) (i)  $\frac{7}{20}$  (ii) 0.35 (iii) 35%  
 (b) (i)  $\frac{3}{10}$  (ii) 0.3 (iii) 30%  
 (c) (i)  $\frac{1}{5}$  (ii) 0.2 (iii) 20%  
 (d) (i)  $\frac{3}{20}$  (ii) 0.15 (iii) 15%



**30. Test Yourself 2****Mental Computation**

- (page 89)
- |                     |                     |                     |                     |                     |
|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1. 35               | 2. 12               | 3. 18               | 4. 12               | 5. 8                |
| 6. 21               | 7. 9                | 8. 21               | 9. $\frac{5}{6}$    | 10. $5\frac{7}{8}$  |
| 11. $6\frac{8}{9}$  | 12. $3\frac{7}{12}$ | 13. $\frac{10}{21}$ | 14. $\frac{15}{32}$ | 15. $\frac{14}{45}$ |
| 16. $\frac{35}{72}$ | 17. 15              | 18. 48              | 19. 63              | 20. 42              |
| 21. 2·09            | 22. 7·023           | 23. 3·45            | 24. 4·375           | 25. 0·36            |
| 26. 0·56            | 27. 0·54            | 28. 8               | 29. 0·07            | 30. 5               |

**Written Computation**

- |                      |                      |                    |                    |                     |
|----------------------|----------------------|--------------------|--------------------|---------------------|
| 1. 14·906            | 2. 504·897           | 3. 239·288         | 4. 23·8            | 5. 19·4             |
| 6. 358               | 7. 276               | 8. 117             | 9. 767             | 10. 822             |
| 11. 621              | 12. 564              | 13. 568            | 14. 267            | 15. $8\frac{1}{25}$ |
| 16. $4\frac{17}{18}$ | 17. $3\frac{13}{20}$ | 18. $\frac{7}{27}$ | 19. $\frac{3}{10}$ | 20. 85              |

**Mental Problems**

- (page 90)
- |          |           |        |           |          |
|----------|-----------|--------|-----------|----------|
| 1. €6·80 | 2. €68·70 | 3. 48  | 4. €12·60 | 5. 120   |
| 6. 65    | 7. 35%    | 8. €51 | 9. €63    | 10. €270 |
| 11. €60  | 12. €80   |        |           |          |

**Written Problems**

- (page 91)
- |           |                   |        |           |          |
|-----------|-------------------|--------|-----------|----------|
| 1. €48·15 | 2. $4\frac{3}{8}$ | 3. 190 | 4. €942   | 5. €578  |
| 6. €680   | 7. €480           | 8. 20% | 9. €67·25 | 10. €119 |
| 11. €144  | 12. 580           |        |           |          |

**31. Test Yourself 3****Mental Computation**

- (page 92)
- |            |           |            |            |            |
|------------|-----------|------------|------------|------------|
| 1. 03:45   | 2. 13:28  | 3. 19:42   | 4. 22:56   | 5. 2·065km |
| 6. 5·006km | 7. 2·75km | 8. 4·039km | 9. 235g    | 10. 2090g  |
| 11. 1750g  | 12. 415ml | 13. 1800ml | 14. 1625ml | 15. +3     |
| 16. -5     | 17. -12   | 18. 9      | 19. 12     | 20. 56     |
| 21. 27     | 22. 16    | 23. 125    | 24. 72     | 25. 4      |
| 26. 21     | 27. 20    | 28. 36     | 29. 8      | 30. 27     |

**Written Computation**

- |                      |                 |                 |                |
|----------------------|-----------------|-----------------|----------------|
| 1. 9hrs 48mins       | 2. 18hrs 10mins | 3. 10hrs 54mins | 4. 2hrs 31mins |
| 5. 2hrs 48mins       | 6. 4hrs 35mins  | 7. 4hrs 39mins  | 8. 8hrs 33mins |
| 9. 9hrs 49mins       | 10. €46·38      | 11. €74·70      | 12. €31·97     |
| (page 93) 13. €50·19 | 14. €23·07      | 15. €23·10      | 16. 2·96kg     |
| 17. 66·255km         | 18. 40·275ml    | 19. 2·579kg     | 20. 0·79l      |

**Mental Problems**

- |          |           |           |           |
|----------|-----------|-----------|-----------|
| 1. €7·65 | 2. 13:10  | 3. 21:55  | 4. 7cm    |
| 5. 40cm  | 6. 30km/h | 7. €40    | 8. €28    |
| 9. 8     | 10. €3    | 11. €1·80 | 12. €5·60 |

**Written Problems**

- (page 94)
- |            |           |          |             |
|------------|-----------|----------|-------------|
| 1. 5·894kg | 2. 20:13  | 3. 120km | 4. 95·545km |
| 5. 6·5cm   | 6. €11·56 | 7. 126km | 8. 04:35    |
| 9. 20%     | 10. €470  | 11. €216 | 12. €712    |