



Dunoon Grammar School
Mathematics Department

National 4
Numeracy

Answers



Four Rules

- | | | | |
|----------------------------------|------------------------------|-----------------|---------------|
| 1. (a) 9862 | (b) 4785 | (c) 2056 | (d) 716 rem 5 |
| 2. (a) 8194 | (b) 842 | | |
| 3. 1261 | 4. 87 | | |
| 5. (a) £37.87 | (b) £12.13 | | |
| 6. £258 | 7. £352.75 | | |
| 8. £3744 | 9. 26 classes | | |
| 10. 64 packs | 11. (a) 4 cans | (b) 10p | |
| 12. (a) 8 teams | (b) 4 people | | |
| 13. 27 rows with 5 plants over | | | |
| 14. £4.45 | 15. (a) £19.40 | (b) 34 weeks | |
| 16. £1.14 short | 17. £565 | | |
| 18. £2.55 | 19. £55 | | |
| 20. £131 | 21. £130 | | |
| 22. £1090 | 23. World of Computers by £5 | | |
| 24. £64 | 25. £56 | | |
| 26. £14.28 | 27. £4.35 | | |
| 28. £192.50 | 29. £8.95 | | |
| 30. (a) £49.59 | (b) no | (c) £1.59 short | |
| 31. £6000 | 32. (a) 65p | (b) £97.50 | |
| 33. £3.84 | 34. (a) £375 | (b) £62.50 | |
| 35. 50p | 36. £23.10 | | |
| 37. £22 | 38. £1372 | | |
| 39. (a) 18 boxes | (b) 15 tiles over | | |
| 40. 54.1kg; 52.5kg; 52.9kg; 52kg | | | |
| 41. 12 weeks | 42. Wally | | |
| 43. (a) £5.19 | (b) £4.22 | | |
| 44. (a) 9.78km | (b) 7.22km | | |

Adding and subtracting negative numbers

- | | | | | | |
|-------------|----------|---------|---------|---------|---------|
| 1. (a) 1 | (b) -5 | (c) 3 | (d) 8 | (e) 2 | (f) 7 |
| (g) 4 | (h) 10 | (i) 5 | (j) -6 | (k) 5 | (l) 4 |
| (m) -1 | (n) -13 | (o) 1 | (p) -1 | | |
| 2. (a) -10 | (b) 50 | (c) -40 | (d) -70 | (e) -10 | (f) -5 |
| (g) -42 | (h) -16 | (i) -23 | (j) 36 | (k) 0 | (l) -70 |
| (m) -23 | (n) -27 | (o) -71 | (p) -99 | | |
| 3. -4°C | 4. -£5 | | | | |
| 5. 59°C | 6. 6°C | | | | |
| 7. 79 years | 8. C A B | | | | |

Percentages

- | | | | |
|------------|------------|-------------|-------------|
| 1. (a) £45 | (b) £90 | (c) £22.50 | (d) £27 |
| (e) £85.50 | (f) £9 | (g) £180 | (h) £135 |
| (i) £207 | (j) £801 | (k) £247.50 | (l) £165.60 |
| (m) £89.10 | (n) £60.30 | (o) £20.70 | (p) £115.20 |



- | | | | | |
|----|-------------|------------|-------------|-------------|
| 2. | (a) £59.50 | (b) £21.25 | (c) £83.30 | (d) £36.55 |
| | (e) £102 | (f) £42.50 | (g) £65.45 | (h) £96.90 |
| | (i) £65.28 | (j) £78.71 | (k) £46.92 | (l) £115.94 |
| | (m) £18.87 | (n) £30.09 | (o) £53.38 | (p) £85.51 |
| | | | | |
| 3. | (a) £20 | (b) £6 | (c) £10 | (d) £14 |
| | (e) £50 | (f) £36 | (g) £18 | (h) £80 |
| | (i) £16.40 | (j) £15.20 | (k) £18.80 | (l) £27.60 |
| | (m) £20.80 | (n) £44.40 | (o) £13.60 | (p) £7.20 |
| | | | | |
| 4. | (a) £120 | (b) £60 | (c) £96 | (d) £36 |
| | (e) £54 | (f) £300 | (g) £840 | (h) £2400 |
| | (i) £12000 | (j) £204 | (k) £339.60 | (l) £58.80 |
| | (m) £166.80 | (n) £26.40 | (o) £2394 | (p) £9 |

VAT

- | | | | | | | | |
|----|--------|----|---------|----|------|----|---------|
| 1. | £288 | 2. | £15.12 | 3. | £432 | 4. | £100.20 |
| 5. | £89.04 | 6. | £394.80 | | | | |

More percentages

- | | | | | | |
|-----|------------|------------|-------------|------------|-------------|
| 1. | (a) 10 | (b) 78 | (c) 11 | | |
| 2. | 12; 15; 30 | | | | |
| 3. | 311 | 4. | (a) £202.50 | (b) £54.28 | (c) £694.20 |
| 5. | 8.25 mins | 6. | 42g | | |
| 7. | £270 | 8. | £220.40 | | |
| 9. | (a) £24 | (b) £40.50 | (c) £192 | | |
| 10. | 120 | 11. | 140g | | |
| 12. | (a) 104 | (b) 120 | (c) 128 | | |

Percentages again

- | | | | | | |
|----|--|---------|----------|---------|-----|
| 1. | (a) 84%; 88%; 80%, 80%; 84%; 75%; 60%; 90% | (b) Art | | | |
| 2. | (a) 25% | (b) 90% | (c) 60% | (d) 35% | |
| | (e) 50% | (f) 35% | (g) £70% | (h) 40% | |
| | (i) 20% | (j) 45% | (k) 15% | (l) 72% | |
| | (m) 55% | (n) 10% | (o) 80% | (p) 25% | |
| | | | | | |
| 3. | (a) 20% | (b) 25% | (c) 10% | | |
| | (d) 40% | (e) 20% | (f) 4% | | |
| | | | | | |
| 4. | 25% | 5. | 90% | 6. | 65% |
| | | | | | |
| 7. | 48% | 8. | 45% | | |



Fractions, Decimals and Percentages (1)

1. (a) £32 (b) 13kg (c) £5.20 (d) 36cm
 (e) £85 (f) 45.5g (g) £10.64 (h) 40.5kg
 (i) £4.68 (j) £4.25 (k) 369mm (l) £0.81
 (m) £1397 (n) 270 tonnes (o) 7.5kg
2. (a) £23.40 (b) 162g (c) £5.85 (d) 252kg
 (e) £1.70 (f) 17.85cm (g) £12.16 (h) £17
 (i) £572 (j) 360g (k) £200 (l) £338.40
 (m) £1170 (n) £0.48 (o) 84 tonnes
3. (a) £4.75 (b) £3.05 (c) £1.14 (d) 42p
 (e) £5.95 (f) 21p (g) £2.20 (h) £13.65
 (i) £41.73 (j) £2.79 (k) £0.23 (l) 30p
 (m) £1.09 (n) £0.36 (o) 55p
4. (a) 80% (b) 75% (c) 28% (d) 70%
 (e) 17% (f) 95% (g) 56% (h) 27%
 (i) 72% (j) 42% (k) 13% (l) 62%
 (m) 7% (n) 43% (o) 19% (p) 10%
 (q) 51% (r) 21%

5. (a)

Maths	English	Tech	Science	Art	History	French
75%	89%	62%	69%	83%	68%	66%

(b) English (c) Tech

Fractions, Decimals and Percentages (2)

1. (a) £287.50 (b) 184kg (c) 28.75cm (d) £41.40
 (e) 2415g (f) 241.5°C (g) £9.20 (h) £4025
2. (a) £200 (b) 128kg (c) 20cm (d) £28.80
 (e) 1680g (f) 168°C (g) £6.40 (h) £2800



3.

Name	Increase	New Wage
John Hughes	£9.20	£239.20
Steven Higgins	£10.08	£178.08
Susan Marshal	£8.40	£218.40
Stewart Aitken	£2.90	£147.90
Pamela Grant	£12.60	£372.60
Neil McShane	£13.50	£238.50
James Mackie	£18.80	£253.80
Lorna Graham	£9.45	£219.45
Pat Lavery	£23.40	£491.40

4. (a) $\frac{3}{5} = 60\%$ (b) $\frac{4}{7} = 57\%$ (c) $\frac{1}{2} = 50\%$ (d) $\frac{1}{4} = 25\%$
 (e) $\frac{11}{16} = 69\%$ (f) $\frac{2}{5} = 40\%$ (g) $\frac{2}{7} = 29\%$
5. (a) 36% (b) 56% (c) 43%
6. (a) 20% (b) 2% (c) 5%

Fractions, Decimals and Percentages (3)

1. (a) £46 (b) £29.60 (c) £91.20 (d) £13.60
 (e) £130 (f) £26.80
2. (a) £276 (b) £177.60 (c) £547.20 (d) £81.60
 (e) £780 (f) £160.80
3. (a) £92 (b) £2392 (c) £95.68
4. (a) £1105 (b) £23205 (c) £1160.25
5. £848.72 6. £898.88

Fractions

1. (a) £15 (b) £32 (c) £5
 (d) £46 (e) £32.40 (f) £6
2. (a) 210cm (b) 830ml (c) £94



- | | |
|------------------------------|--|
| 3. 2.8m | 4. 6 hours |
| 5. 207 adults | 6. 6 boys |
| 7. 10 white chocolate | 8. 6 white candles |
| 9. (a) 36 | (b) 216 |
| 10. 30 mins | 11. 25 days 12. 16 hours |

More fractions

- | | | |
|---------------------|----------------------|--------------------|
| 1. (a) 192m | (b) £160 | (c) £192.50 |
| 2. 36 sweets | 3. (a) 21 | (b) 3 |
| 4. (a) 1160 | (b) 290 | |
| 5. (a) 16 | (b) 12 | (c) 8 |
| 6. (a) 60 | (b) 15 | (c) 25 |
| 7. 400 cars | 8. 350 pieces | 9. 28 |

Rounding – revision and 2 decimal places

- | | | | | |
|-------------|----------|----------|----------|----------|
| 1. | (a) 3 | (b) 6 | (c) 1 | (d) 8 |
| | (e) 8 | (f) 3 | (g) 5 | (h) 9 |
| | (i) 2 | (j) 8 | (k) 6 | (l) 1 |
| | (m) 5 | (n) 8 | (o) 4 | (p) 6 |
| 2. | (a) 12 | (b) 35 | (c) 28 | (d) 83 |
| | (e) 18 | (f) 38 | (g) 36 | (h) 90 |
| | (i) 123 | (j) 364 | (k) 19 | (l) 343 |
| | (m) 45 | (n) 218 | (o) 74 | (p) 119 |
| 3. | (a) 20 | (b) 70 | (c) 70 | (d) 90 |
| | (e) 60 | (f) 30 | (g) 20 | (h) 90 |
| | (i) 60 | (j) 80 | (k) 20 | (l) 50 |
| | (m) 30 | (n) 80 | (o) 70 | (p) 30 |
| 4. | (a) 210 | (b) 130 | (c) 760 | (d) 340 |
| | (e) 280 | (f) 120 | (g) 520 | (h) 200 |
| | (i) 110 | (j) 560 | (k) 140 | (l) 500 |
| | (m) 430 | (n) 180 | (o) 260 | (p) 310 |
| 5. | (a) 300 | (b) 200 | (c) 300 | (d) 800 |
| | (e) 700 | (f) 400 | (g) 500 | (h) 900 |
| | (i) 100 | (j) 300 | (k) 700 | (l) 700 |
| | (m) 500 | (n) 200 | (o) 200 | (p) 800 |
| | (q) 1300 | (r) 1400 | (s) 2100 | (t) 3500 |
| | (u) 1900 | (v) 2000 | (w) 6500 | (x) 8100 |
| 6.i. | (a) 2910 | (b) 5670 | (c) 1460 | (d) 8320 |
| | (e) 7770 | (f) 3100 | (g) 4520 | (h) 9290 |
| | (i) 2130 | (j) 7930 | (k) 6250 | (l) 1100 |
| | (m) 4770 | (n) 8450 | (o) 3940 | (p) 6000 |
| ii. | (a) 2900 | (b) 5700 | (c) 1500 | (d) 8300 |
| | (e) 7800 | (f) 3100 | (g) 4500 | (h) 9300 |
| | (i) 2100 | (j) 7900 | (k) 6300 | (l) 1100 |
| | (m) 4800 | (n) 8500 | (o) 3900 | (p) 6000 |



- | | | | | |
|------|----------------|-------------|------------|-----------------|
| iii. | (a) 3000 | (b) 6000 | (c) 1000 | (d) 8000 |
| | (e) 8000 | (f) 3000 | (g) 5000 | (h) 9000 |
| | (i) 2000 | (j) 8000 | (k) 6000 | (l) 1000 |
| | (m) 5000 | (n) 8000 | (o) 4000 | (p) 6000 |
| 7. | (a) 0.3 | (b) 0.3 | (c) 0.6 | (d) 0.6 |
| | (e) 0.2 | (f) 0.2 | (g) 0.4 | (h) 0.3 |
| | (i) 0.9 | (j) 0.4 | (k) 0.8 | (l) 0.7 |
| | (m) 0.9 | (n) 0.2 | (o) 0.7 | (p) 1.0 |
| 8. | (a) 2.9 | (b) 5.7 | (c) 1.5 | (d) 8.3 |
| | (e) 7.8 | (f) 3.1 | (g) 4.5 | (h) 9.3 |
| | (i) 2.1 | (j) 7.9 | (k) 6.3 | (l) 1.1 |
| | (m) 4.8 | (n) 8.5 | (o) 3.9 | (p) 5.6 |
| 9. | (a) 62.0 | (b) 15.6 | (c) 31.5 | (d) 18.3 |
| | (e) 47.3 | (f) 0.1 | (g) 10.5 | (h) 39.6 |
| | (i) 20.8 | (j) 0.3 | (k) 61.5 | (l) 1.0 |
| | (m) 49.9 | (n) 8.4 | (o) 18.0 | (p) 1.0 |
| 10. | (a) 2.92 | (b) 5.66 | (c) 1.41 | (d) 8.32 |
| | (e) 7.76 | (f) 3.12 | (g) 4.53 | (h) 9.21 |
| | (i) 2.13 | (j) 7.94 | (k) 6.25 | (l) 1.09 |
| | (m) 4.76 | (n) 8.45 | (o) 3.94 | (p) 5.50 |
| 11. | (a) £6.17 | (b) £0.16 | (c) 1.07 s | (d) 57.14 miles |
| | (e) 6.28 pages | (f) £138.14 | (g) £0.17 | (h) 0.88 mins |
| | (i) 2.93 cm | (j) 0.36 km | | |

Further rounding

- | | | | | |
|----|-----------|------------|------------|------------|
| 1. | (a) 4m | (b) 324m | (c) 290cm | (d) 484cm |
| 2. | (a) 4cm | (b) 7cm | (c) 3cm | |
| 3. | (a) £2.46 | (b) £90.28 | (c) £32.41 | (d) £86.90 |
| 4. | (a) £4.64 | (b) £63.76 | (c) £0.93 | (d) £36.86 |
| 5. | 38p | 6. £1.83 | 7. £2.18 | |

ROUNDING – significant figures

- | | | | | |
|----|-----------|------------|-----------|-----------|
| 1. | (a) 20 | (b) 6 | (c) 80 | (d) 30 |
| | (e) 100 | (f) 300 | (g) 300 | (h) 800 |
| | (i) 8000 | (j) 2000 | (k) 8000 | (l) 5000 |
| | (m) 10 | (n) 600 | (o) 4 | (p) 10000 |
| | (q) 1 | (r) 100 | (s) 0.9 | (t) 600 |
| 2. | (a) 8.7 | (b) 93 | (c) 0.19 | (d) 680 |
| | (e) 2.1 | (f) 6.5 | (g) 31 | (h) 26 |
| | (i) 24 | (j) 19 | (k) 6400 | (l) 5.0 |
| | (m) 0.053 | (n) 0.0061 | (o) 0.087 | (p) 14000 |
| | (q) 2.5 | (r) 45000 | (s) 29 | (t) 0.76 |
| 3. | (a) 120 | (b) 4.0 | (c) 250 | (d) 41 |
| | (e) 49 | (f) 0.49 | (g) 3.8 | (h) 0.084 |
| | (i) 250 | (j) 17 | (k) 500 | (l) 65 |



Calculate distance given speed and time

- (a) 150 (b) 160 (c) 120 (d) 90 (e) 240 (f) 374
 (g) 384 (h) 208 (i) 288 (j) 192 (k) 168 (l) 220
- (a) 125 (b) 54 (c) 224 (d) 210 (e) 105 (f) 105
 (g) 279 (h) 95 (i) 81 (j) 168 (k) 168 (l) 252
- (a) 200km (b) 390 miles (c) 217.5km (d) 12km (e) 24miles
- (a) 3220km (b) Yes (max. distance 5980km)
- (a) 91km (b) $28 + 126 + 21 = 175\text{km}$

EXTENSION – calculating speed and time

- (a) 60 (b) 50 (c) 80 (d) 65 (e) 100 (f) 72
 (g) 46 (h) 76 (i) 56 (j) 65 (k) 83 (l) 51
- (a) 50 (b) 64 (c) 82 (d) 76 (e) 64 (f) 66
 (g) 68 (h) 54 (i) 38 (j) 60 (k) 48 (l) 42
- (a) 6 (b) 12 (c) 10 (d) 9 (e) 3 (f) 5
 (g) 2 (h) 6 (i) 7 (j) 3 (k) 7 (l) 4
- (a) 8 (b) 5 (c) 10 (d) 8 (e) 6 (f) 7
 (g) $2\frac{1}{2}$ (h) $3\frac{1}{2}$ (i) $1\frac{1}{2}$ (j) 2.4 (k) 6.4 (l) 5.5

Time Intervals (12 hour time)

- (a) 4 (b) 6 (c) 3 (d) 8 (e) 10 (f) 1
 (g) 4 (h) 8 (i) 9 (j) 8 (k) 12 (l) 8
- (a) 3 h 30 min (b) 2 h 15 min (c) 3 h 30 min (d) 1 h 30 min
 (e) 2 h 15 min (f) 2 h 45 min (g) 1 h 45 min (h) 6 h 45 min
 (i) 6 h 15 min (j) 9 h 15 min (k) 10 h 45 min (l) 13 h 30 min
- (a) 5 hrs (b) 14 hrs (c) 15 hrs (s) 20 hrs
 (e) 9 hrs (f) 5 hrs (g) 3 hrs (h) 7h15m
 (i) 3 hrs (j) 8h15m (k) 12h15m (l) 3h45m
- 30 min 5. $8\frac{1}{2}$ hrs 6. $1\frac{1}{2}$ hrs 7. 8h 45m 8. 15h 45m
- (a) 1.52 p.m. (b) 3.09 p.m. (c) 4.37 a.m.
 (d) 5.50 a.m. (e) midnight (f) 7.23 a.m.
- (a) 3.05 p.m. (b) 7.55 p.m. (c) 5.25 a.m.
 (d) 3.15 a.m. (e) 2.16 p.m. (f) 1.37 a.m.
- (a) 3.30 p.m. (b) 11.15 a.m. (c) 7.15 p.m.
 (d) 8 a.m. (e) 9.29 a.m. (f) 6 a.m.
- (a) 9.45 a.m. (b) 6.35 p.m. (c) 10.45 p.m.
 (d) 2.40 a.m. (e) 11.30 p.m. (f) 10.30 a.m.
- (a) 4 p.m. (b) 6 a.m. (c) 11.05 p.m.
 (d) 10.06 p.m. (e) 5.20 p.m. (f) 2.20 a.m.
- (a) 2.15 p.m. (b) 00.35 a.m. (c) 11.45 p.m.
 (d) 1.52 p.m. (e) 6.45 a.m. (f) 2.18 a.m.
- (a) 2.15 p.m. (b) 12.10 p.m. (c) 4.05 p.m.



Time Intervals (24 hour time)

1. (a) 35 (b) 25 (c) 20
(d) 24 (e) 34 (f) 32
2. (a) 12 (b) 4 (c) 12
(d) 18 (e) 15 (f) 13
3. (a) 2 hours 10 mins (b) 2 hours 20 mins (c) 1 hour 45 mins
(d) 15 hours 20 mins (e) 15 hours 20 mins (f) 2 hours 45 mins
4. (a) 0948 (b) 1356 (c) 1710 (d) 1805 (e) 1223 (f) 1901
5. (a) 1310 (b) 1210 (c) 1515 (d) 2250 (e) 2025 (f) 1145
6. (a) 2300 (b) 1708 (c) 0615 (d) 0323 (e) 0731 (f) 2235
7. (a) 2000 (b) 1234 (c) 1009 (d) 2230 (e) 0250 (f) 2206
8. (a) 0800 (b) 1435 (c) 2305 (d) 1847 (e) 1938 (f) 1722
9. (a) 1120 (b) 1205 (c) 1140 (d) 0957 (e) 1750 (f) 0139
10. 1120 11. 0710 12. (a) 2215 (b) miss start by 5 minutes

Timetables (1)

1. (a) 4 (b) depends on school
2. Art 3. Period 4 – P.E. 4. English
5. 1.40 p.m. 6. English 7. 15 mins
8. 45 mins 9. (a) 1.10 p.m. (b) 24 mins
10. 8.45 a.m. 11. 3.40 p.m.
- 12 (a) 10 mins (b) 50 mins
13. (a) 105 mins (b) 1 hour 45 mins
14. (a) 220 mins (b) 3 hours 40 mins
15. 55; 50; 55; 55 16. 1 hour 50 mins 17. 210 mins
18. 6 hours 30 mins 19. 32 hours 30 mins
20. (a) 1 hour 15 mins (b) 3 hours 45 mins (c) 27 hours 30 mins
21. (a) 8 hours 5 mins (b) 40 hours 25 mins

Timetables (2)

1. BBC 1: Eastenders, Politics, Last of the Summer Wine, Songs of Praise, Sportscene
ITV 1: News, Eye to Eye. Gaelic Programme, Scotsport, Driving Miss Daisy
2. (a) Sportscene (b) 45 mins
3. (a) 5.50 p.m. (b) Scotsport
4. (a) News (b) Eastenders
5. (a) Eastenders (b) Driving Miss Daisy
6. (a) 25 mins (b) 55 mins (c) 80 mins (d) 1 hour 20 mins
7. (a) 45 mins (b) 30 mins (c) 1 hour 15 mins
8. (a) 30 mins (b) Seven Days



9. 25 mins
10. (a) 1 hour 55 mins; 40 mins; 45 mins (b) 3 hours 20 mins
11. (a) 1 hour 45 mins (b) 2 hours 45 mins (c) Sports scene (d) 4 hours 30 mins

Timetables (3)

1. (a) 30 mins (b) 2 hours (c) 45 mins
(d) 1 hour 45 mins (e) 4 hours
2. 30 mins
3. 3 hours 30 mins
4. (a) 11.15 a.m. (b) 11.50 a.m. (c) 25 mins
5. (a) Abseiling (b) 105 mins
(c) 15 mins (d) 5 mile run, breakfast, planning for midnight hike
6. (a) 5.30 p.m. (b) 1 hour 30 mins (c) 7.30 p.m.
7. 12.45 a.m. / 3 hours 15 mins; 12.30 a.m. / 3 hours; 1.15 a.m. / 3 hours 45 mins
(a) Kieron (b) Daniel (c) 45 mins

Ratio(1)

1. (a) £15 : £35 (b) 24kg : 56kg
(c) £25 : £10 (d) 192g : 48g
2. (a) Harry £10; James £30; Bill £80
(b) Susan £8; Beth £20; Jill £28
3. (a) £2380 (b) £1860
4. 15 girls
5. (a) 16g (b) Dave £206; Frank £618
6. (a) 30 cows (b) 72 cows (c) Bill 27; Dan 36; George 9

Ratio (2)

1. (a) £18:£30 (b) £70:£30 (c) £8:£48 (d) £40:£10
(e) £75:£45 (f) £40:£35 (g) £16:£20 (h) £100:£140
2. (a) £8:£24:£56 (b) £6:£9:£33 (c) £15:£20:£25 (d) £12:£24:£60
3. John £1360; David £2040
4. 20 girls
5. 21 bags of sand
6. (a) 40 dogs (b) 12 boys (c) 12 diamonds
(d) John £3600; Dave £6000



7. (a) Xena 40 coins; Joxar 8 coins
 (b) 72 coins
 (c) Xena 27 coins; Gabrielle 15 coins; Joxar 12 coins; Calisto 18 coins.

Volume of a cube and cuboid

1. (a) 27cm^3 (b) 343cm^3 (c) 8cm^3 (d) 64cm^3
 (e) 125cm^3 (f) 1000cm^3 (g) 216cm^3 (h) 729cm^3
 (i) 512cm^3 (j) 2744cm^3 (k) 1331cm^3 (l) 8000cm^3
2. (a) 60cm^3 (b) 42cm^3 (c) 280cm^3 (d) 48cm^3
 (e) 1600mm^3 (f) 53.9cm^3 (g) 0.36m^3 (h) 45cm^3
 (i) 800cm^3 (j) 600cm^3
3. (a) 120cm^3 (b) 144cm^3 (c) 6m^3 (d) 2160cm^3
 (e) 343cm^3 (f) 360cm^3 (g) 224.1cm^3 (h) 357.76cm^3
 (i) 510000mm^3 (j) 7148.5cm^3
4. 7776cm^3 5. 31 pupils
6. (a) $300\,000\,000\text{cm}^3$ (b) 300 000 litres

Finding the area of a shape

1. 14cm^2 2. 30cm^2 3. 54cm^2 4. 188cm^2
 6. 380cm^2 6. 338cm^2 7. 664cm^2 8. 71.28cm^2
 9. 16cm^2

Finding the perimeter of a shape

1. (a) 16cm (b) 24cm (c) 38cm (d) 64cm
 (e) 90cm (f) 104cm (g) 144cm (h) 55.6cm
 (i) 60cm
2. (a) 73.8cm (b) 264cm (c) 133.4cm
 (d) 58.2cm (e) 161.4m

Calculate rate

1. (a) £4.49 (b) £3.50 (c) £0.32 (d) £9
 (e) £0.15 (f) £8.50 (g) £0.89 (h) £0.19
2. (a) 65 miles (b) 24 km (c) 700 cars (d) 14 words
 (e) 3 pints (f) 0.2 kg (g) £3.60 (h) 1.2 km
3. (a) 5kg pack (b) first car (c) Jim (d) Paula
 (e) choc.eclair (f) doll (g) machine A

Best Buy

- (a) 3 litres (b) 1.5 litres (c) 550g (d) 750g
 (e) 0.7 litres (f) 500ml (g) 0.8kg (h) 600g
 (i) Twin Pack (j) 550ml



Direct Proportion

- | | | | |
|--------------------|---|-------------|---------------|
| 1. (a) 2000 sheets | (b) 90 p | (c) 67.8 g | (d) 910 kcal |
| (e) 84 m | (f) 4200 ml | (g) 400 p | (h) 11.4Euros |
| 2. (a) 700 | (b) £2.25 | (c) 7 kg | (d) 110 km |
| (e) 17.1 cm | (f) £164 | (g) 3 hours | (h) £190.75 |
| (i) £504 | (j) 3 ¼ hours | (k) £56.25 | |
| 3. (a) £60 | (b) 175 miles | | |
| 4. 65.6 km | 5. 20.25 cm | 6. 4.34 cm | |
| 7. 34 books | 8. £2.56, £2.24, £2.25, £3.60, £0.48 Total = £11.13 | | |

Direct Proportion again

- | | | | |
|---------------|-------------|------------|---------|
| 1. (a) 600g | (b) 150g | (c) 450g | |
| 2. (a) 42p | (b) £1.26 | (c) £4.62 | |
| 3. 2.3kg | | | |
| 4. (a) £7.02 | (b) 79.8mm | (c) 22.8mm | (d) 9kg |
| 5. (a) £13.20 | (b) £633.60 | | |
| 6. £258 | | | |
| 7. 27 litres | | | |
| 8. 9 books | | | |
| 9. £124 | | | |

Hire Purchase

- | | | | |
|-------------------------------|---------------|-----------------|-------------|
| 1. (a) (i) £369 | (ii) £39 | (b) (i) £135 | (ii) £17 |
| (c) (i) £305 | (ii) £26 | (d) (i) £424 | (ii) £34 |
| (e) (i) £566 | (ii) £56 | (f) (i) £474 | (ii) £25 |
| (g) (i) £325 | (ii) £42 | (h) (i) £550.40 | (ii) £51.40 |
| 2. £561.95; £534.15; £510.35. | | | |
| 3. £120 | | | |
| 4. (a) (i) £45 | (ii) £501 | (iii) £51 | |
| (b) (i) £78 | (ii) £870 | (iii) £90 | |
| (c) (i) £39 | (ii) £240 | (iii) £45 | |
| (d) (i) £55.55 | (ii) £429.90 | (iii) £59.90 | |
| (e) (i) £82 | (ii) £499.60 | (iii) £89.60 | |
| (f) (i) £138 | (ii) £1077.60 | (iii) £157.60 | |



(g) (i) £821.25 (ii) £4157.25 (iii) £872.25

(h) (i) £22.90 (ii) £254.20 (iii) £25.20

5. £7200; £8240; £8496 - £1296 6. £120

Holiday Money (1)

1. (a) \$7.75 (b) \$48.05 (c) \$716.10 (d) \$31
 (e) \$68.20 (f) \$13.95 (g) \$320.85 (h) \$55.80
 (i) \$100.75 (j) \$6.98 (k) \$132.55 (l) \$27.13
2. (a) 4.64€; 600¥ (b) 56.84€; 7350¥ (c) 214.60€; 27750¥
 (d) 34.80€; 4500¥ (e) 31.32€; 4050¥ (f) 8.12€; 1050¥
 (g) 352.64€; 45600¥ (h) 60.32€; 7800¥ (i) 96.28€; 12450¥
 (j) 11.60€; 1500¥ (k) 0.58€; 75¥ (l) 21.46€; 2775¥
3. (a) 10.20\$ (b) 96.90\$ (c) 32.30\$ (d) 350.20\$
 (e) 229.50\$ (f) 39.10\$ (g) 3.40\$ (h) 130.90\$
 (i) 57.80\$ (j) 816\$ (k) 0.85\$ (l) 50.15\$
4. 127.60€; 109.04€
5. (a) \$852.50 (b) \$52.50
6. (a) 11250¥ (b) 9830¥

Holiday Money (2)

1. (a) £5 (b) £16 (c) £37 (d) £47
 (e) £64 (f) £1030 (g) £214 (h) £1340
 (i) £45.20 (j) £63.10 (k) £1094.30 (l) £7.25
2. (a) £30 (b) £52.50 (c) £270 (d) £97.50
 (e) £750 (f) £1275 (g) £2625 (h) £14250
 (i) £2460 (j) £1125 (k) £7.50 (l) £148.50
3. (a) £5.18 (b) £2.59 (c) £621.89 (d) £388.68
 (e) £269.49 (f) £93.28 (g) £36.28 (h) £1036.49
 (i) £24.88 (j) £9.87 (k) £64.26 (l) £4.66
4. £9.49; £14.63; £38.92
5. £9.99



6. (a) 3724R (b) 380R (c) £25

Measurements (length)

1. (a), (b), (c), (d) pupil's own ideas
2. (a) m (b) mm (c) km (d) cm
3. (a) trundle wheel (b) tape measure (c) ruler (d) metre stick / tape measure
4. (a) and (b) pupil's own ideas
5. (a) 6cm / 60mm (b) 7.3cm / 73mm
(c) 3.5cm / 35mm (d) 2.2cm / 22mm
6. (a) 6.1cm (b) 4.9cm (c) 8.4cm (d) 7.6cm

Measurements (volume and capacity)

1. (a) gram (b) litre (c) kilogram (d) millilitre
2. tennis ball, golf ball, football, cricket ball, ten-pin bowling ball
3. petrol tank, baby bath, kettle, cup of coffee, perfume bottle

Measurements (volume and capacity)

1. weight marked
2. weight marked
3. length marked
4. length marked
5. volume marked
6. (a) 6.2cm (b) line extended (c) 3cm
7. (a) 3.7cm (b) line extended (c) 3.6cm
8. (a) 8.1cm (b) line reduced (c) 5.5cm
9. (a) 2.5kg (b) 1.25kg (c) 0.15kg
(d) 0.275kg (e) 1.3kg (f) 0.7kg
10. (a) 140ml (b) 125ml (c) 75ml
11. (a) 38° (b) 123° (c) 105°
(d) 53° (e) 25° (f) 143°
(g) 36° (h) 110° (i) 16°
(j) 114°



Conversions

1. (a) 4kg (b) 34kg (c) 90kg (d) 36kg
 (e) 3.5kg (f) 4.8kg (g) 3.7kg (h) 2.6kg
 (i) 3.67kg (j) 8.635kg (k) 2.082kg (l) 1.07kg (m) 0.34kg
 (n) 0.78kg (o) 0.375kg (p) 0.863kg (q) 0.065kg (r) 0.023kg
 (s) 0.099kg (t) 0.021kg (u) 0.003kg (v) 0.007kg
 (w) 0.009kg (x) 0.001kg
2. (a) 8000g (b) 19000g (c) 50000g (d) 75000g
 (e) 4642g (f) 1635g (g) 7482g (h) 1077g
 (i) 349g (j) 653g (k) 420g (l) 680g
 (m) 3540g (n) 5650g (o) 10020g (p) 16670g
 (q) 4800g (r) 7200g (s) 45400g (t) 21600g
 (u) 530g (v) 87g (w) 90g (x) 1g
3. (a) 3/ (b) 3.8/ (c) 60/ (d) 83/
 (e) 6.7/ (f) 2.7/ (g) 1.7/ (h) 9.2/
 (i) 3.89/ (j) 3.728/ (k) 5.087/ (l) 2.085/
 (m) 0.81/ (n) 0.27/ (o) 0.281/ (p) 0.928/
 (q) 0.029/ (r) 0.01/ (s) 0.082/ (t) 0.094/
 (u) 0.006/ (v) 0.001/ (w) 0.007/ (x) 0.004/
4. (a) 4000ml (b) 22000ml (c) 80000ml (d) 65000ml
 (e) 4642ml (f) 1635ml (g) 7482ml (h) 1077ml
 (i) 756ml (j) 831ml (k) 810ml (l) 620ml
 (m) 1570ml (n) 2910ml (o) 12090ml (p) 24270ml
 (q) 1300ml (r) 6900m (s) 21100ml (t) 98100ml
 (u) 76ml (v) 722ml (w) 60ml (x) 5ml
5. (a) 4m (b) 3m (c) 12m (d) 114m
 (e) 0.6m (f) 0.7m (g) 0.91m (h) 0.28m
 (i) 52.3m (j) 28.71m (k) 10.09m (l) 33.22m
 (m) 0.08m (n) 0.07m (o) 0.01m (p) 0.05m
6. (a) 700cm (b) 3600cm (c) 12000cm (d) 13400cm
 (e) 57000cm (f) 2300cm (g) 1230cm (h) 906cm
 (i) 640cm (j) 60cm (k) 205cm (l) 780cm
 (m) 798cm (n) 400.7cm (o) 9cm (p) 70cm
7. (a) 700cm (b) 360cm (c) 1020cm (d) 1140cm
 (e) 57cm (f) 23cm (g) 12.3cm (h) 90.6cm



- | | | | | |
|-----|--------------|---------------|--------------|--------------|
| | (i) 6cm | (j) 2cm | (k) 2.5cm | (l) 7.8cm |
| | (m) 0.7cm | (n) 0.4cm | (o) 0.2cm | (p) 0.1cm |
| 8. | (a) 80mm | (b) 30mm | (c) 67mm | (d) 69.8mm |
| | (e) 3.4mm | (f) 17.8mm | (g) 25.9mm | (h) 30.9mm |
| 9. | (a) 6km | (b) 1.5km | (c) 29km | (d) 4.87km |
| | (e) 0.536km | (f) 0.65km | (g) 0.021m | (h) 0.007m |
| 10. | (a) 3000m | (b) 12000m | (c) 3800m | (d) 4670m |
| | (e) 216m | (f) 640m | (g) 370m | (h) 17m |
| 11. | (a) 7m | (b) 3.6m | (c) 10.2m | (d) 11.4m |
| | (e) 0.57m | (f) 0.23m | (g) 0.123m | (h) 0.906m |
| | (i) 0.06m | (j) 0.02m | (k) 0.025m | (l) 0.078m |
| | (m) 0.007m | (n) 0.004m | (o) 0.002m | (p) 0.001mm |
| 12. | (a) 9000mm | (b) 2000mm | (c) 3300mm | (d) 5340mm |
| | (e) 234mm | (f) 780mm | (g) 990mm | (h) 9mm |
| 13. | (a) 7km | (b) 1.5km | (c) 2.3km | (d) 0.567km |
| | (e) 0.5361km | (f) 0.0470km | (g) 0.0066km | (h) 0.0009km |
| 14. | (a) 200000cm | (b) 2300000cm | (c) 350000cm | (d) 153000cm |
| | (e) 33300cm | (f) 67400cm | (g) 55700cm | (h) 4600cm |

Reading Tables

- | | | | | |
|----|---|--------------|---------------|--|
| 1. | (a) £5.50 | (b) £5 | (c) £23 | |
| 2. | (a) £628 | (b) £832.50 | (c) £2061.50 | |
| 3. | (a) 19 th | (b) Thursday | (c) 11 nights | (d) 7 th |
| 4. | (a) 13km | (b) 27km | (c) 51km | |
| 5. | (a) (i) 50p | (ii) £9.60 | (iii) £24 | (iv) £7.35 |
| | (b) £4.50 for 50 copies; £4.40 for 55 copies so Jamie was correct | (c) £1.80 | | |
| 6. | (a) 38 | (b) 41 | (c) 36 | |
| 7. | (a) (i) 5 | (ii) 8 | (iii) 4 | |
| | (b) 14 | (c) £146.50 | | |
| 8. | (a) 230 people | (b) 24 | (c) 167 | (d) more people choose to cruise or any acceptable comment |



9. (a) £682.36 (b) £34.12 (c) £329.47 (d) £8000; 36 months, without loan protection
 (e) £10000 for 36 months (f) £15000 for 48 months
10. (a) £15 (b) 18.6% (c) 1.61%
 (d) £4 or 4% (e) £7.50 (f) £6
11. (a) 16days
 (b) (i) £4438 (ii) £8140 (iii) £8341 (iv) £2494
12. (a) £4348 (b) £2946 (c) £1730.40 (d) £1113

Interpreting statistical diagrams

1. (a) 6 (b) ready salted (c) 82 (d) roast chicken
 (e) ready salted, salt & vinegar, prawn cocktail, cheese & onion, smoky bacon, roast chicken
2. (a) Tuesday (b) Wednesday (c) 12
3. (a) 7 (b) 3 (c) 6 (d) 35
4. (a) (i) $\frac{1}{2}$ (ii) $\frac{1}{4}$ (iii) $\frac{1}{8}$ (iv) $\frac{1}{8}$
 (b) 300 (c) 150
5. (a) (i) $\frac{1}{4}$ (ii) $\frac{1}{2}$ (iii) $\frac{1}{20}$ (iv) $\frac{1}{5}$
 (b) action
6. (a) (i) $\frac{1}{10}$ (ii) $\frac{2}{5}$ (iii) $\frac{3}{10}$ (iv) $\frac{1}{5}$
 (b) walk (c) 12
7. (a) December (b) 6.5, 11 (c) 2.5
8. (a) time gets less (b) practice makes perfect
9. (a) 2.9 kg (b) 4.6, 5.7, 6.8 (c) 1.2 kg (d) 11 and 12
10. (a) 16 plants (b) 63cm (c) 56cm, 57cm, 59cm (d) $\frac{1}{4}$

11. (a) Cost of CD Player (£)
- | | | |
|---|--|---------------|
| 6 | | 6 8 |
| 7 | | 1 3 5 5 5 8 9 |
| 8 | | 0 1 3 |
| 9 | | 2 |
- (b) £75

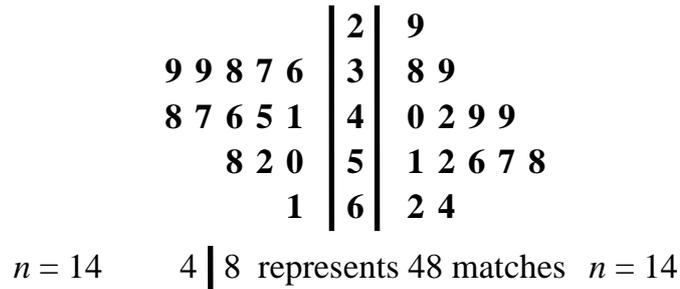
$n = 13$ $7 \mid 4$ represents £74



12. (a) 45 days (b) last year 28 days; this year 17 days
 (c) Absence rate appears to have decreased since last year. or equivalent.

Interpret Statistics

1. (a) Number of Matches per box
Brighto *Sparky*



- (b) "Both boxes are very poor. Brighto is possibly the better of the two." or equivalent.
2. (a) size 7 (b) mode (c) Yes. Mean = 48, median = 48
4. (a) 26, 25, no mode (b) below (c) 4, 25, 25 (d) above the mean
5. (a) 17000, 15000, 15000 (b) median
6. (a) 785 (b) 36110
7. (a) A: 2 teams of 14, 15, 16, 17, 18 B: 14, 14, 15, 16, 18 & 14, 15, 16, 16, 17
 (b) No. Mean age = 16.2
8. mode (22) 9. (a) £21.22 (b) less than mean (just over half)

Probability

1. (a) A (b) A (c) both same
 (d) A (e) B (f) B - with reasons
2. (a) (i) 40 (ii) 40
 (b) (i) 12 (ii) 4
 (c) (i) 39 (ii) 36 (iii) 3
 (d) (i) 28 (ii) 12 (iii) 4
3. (a) $\frac{3}{4}$ (b) 16
4. (a) 0.76 (b) 18