

Pages 4–5

- 6400926
 - 9218074
 - 2100000
 - 3290591
 - 1400212
 - 4001390
 - 7002008
 - 1400260
- six million seven hundred and eighty-five thousand one hundred and forty-one
 - one million five hundred and ten thousand nine hundred and thirty
- 2969921
 - 7224025
 - 3363280
 - 85501597

City	Country	Population
Tokyo	Japan	35 521 740
Mexico City	Mexico	22 843 550
New York	USA	22 310 740
Mumbai	India	19 463 950
Shanghai	China	16 708 510
Cairo	Egypt	15 837 460
Moscow	Russia	14 432 190
London	UK	12 412 330

Pages 6–7

- 17
 - 14
 - 6
 - 1
 - 3
 - 9
- 16
 - 9
 - 23
 - 17
- 14°C, -13°C, -5°C, 0°C, 3°C, 18°C
- 6°
 - 45°
 - 21°
- 1 m 6 cm (or 106 cm)
 - 93 cm (or 0.93 m)
 - 6th attempt
 - 8th attempt
 - 6 below the target (-6)

Pages 8–9

- 18
 - 25
 - 16
 - 43
 - 33
 - 24
 - 18
 - 6
- $(5 - 3) \times (4 + 2) = 12$
 - $15 + (21 \div 7) - 8 = 10$
 - $(9 \div 3) + (6 - 5) = 4$
 - $2 \times (4 + 2) \times 4 = 48$
 - $(5 + 10) - (18 \div 9) = 13$
- 3
 - 2
 - 3
 - 6
 - 3
- There are many possible solutions. Check each calculation gives each number from 1–20 as the answer.

Pages 10–11

- 145
 - 115
 - 181
 - 183
 - 223
 - 345
- 26
 - 28
 - 18
 - 76
 - 67
 - 38
- $3700 + 4800$
 $2900 + 5600$
 $3900 + 4600$

+	89	168	+	203	428	+	388	109
134	223	302	169	372	597	577	965	686
215	304	383	324	527	752	438	826	547

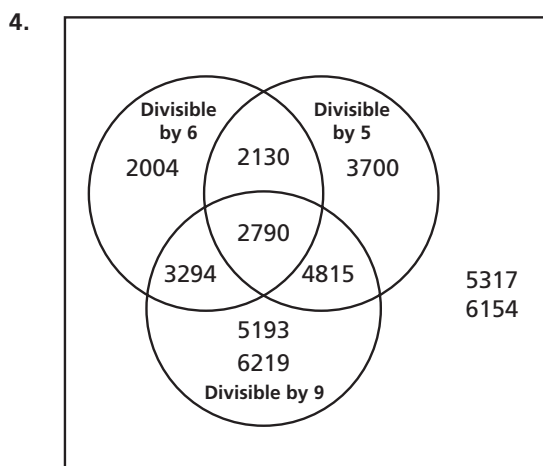
- 495

Pages 12–13

- 40, 4.0
 - 21, 2.1
 - 36, 3.6
 - 42, 4.2
 - 64, 6.4
 - 63, 6.3
 - 49, 4.9
 - 45, 4.5
- $20 + 1.5 = 21.5$
 - $(7 \times 8) + (0.5 \times 8) = 56 + 4.0 = 60$
 - $(8 \times 9) + (0.6 \times 9) = 72 + 5.4 = 77.4$
 - $(5 \times 3) + (0.9 \times 3) = 15 + 2.7 = 17.7$
 - $(6 \times 7) + (0.2 \times 7) = 42 + 1.4 = 43.4$
- 50.4
 - 20.4
 - 28.8

Pages 14–15

- 6
 - 2
 - 4
 - 2
 - 7
 - 8
- 324, 684, 756, 396
- 2, 3, 4, 6 and 8
 - 3 and 9
 - 2, 5 and 10
 - 2, 3, 4 and 6
 - 2, 3, 4, 5, 6, 8 and 10
 - 2, 3, 5, 6, 9 and 10



Answers

Page 16

1. 17
2. 6 210 050
3. 30
4. <
5. 7
6. -20°C , 21°C
7. 5
8. six hundred thousand (or 600 000)
9. 21
10. 8 731 097, 8 130 974
11. 9 0 9 9 9 9 0
12. 48
13. >
14. 75
15. 4 008 160
16. 17
17. 108
18. -3, 8
19. 3
20. 7

Page 17

1. 35, 3.5
2. 91
3. 432
4. 145
5. £10.80
6. Yes
7. 1.8
8. 2
9. 57
10. 235
11. 543
12. 31.2
13. 6, 9
14. 146
15. 7.2
16. 37p
17. 60
18. 2055 and 2058
19. 237
20. 40.2

Pages 18–19

1. a) 15, 30, 45, 60, 75, 90 b) 30, 60, 90
c) 36, 72
d) 10, 20, 30, 40, 50, 60, 70, 80, 90
2. a) 15 b) 30 c) 36 d) 10
3. a) (1, 48) (2, 24) (3, 16) (4, 12) (6, 8)
b) (1, 27) (3, 9)
c) (1, 45) (3, 15) (5, 9)
d) (1, 36) (2, 18) (3, 12) (4, 9) (6, 6)
e) (1, 30) (2, 15) (3, 10) (5, 6)
f) (1, 42) (2, 21) (3, 14) (6, 7)
4. a) 24 b) 45 c) 30 d) 36
e) 60 f) 24
5. a) 1, 2, 3, ⑥ b) 1, 3, ⑨
c) 1, 2, 3, ⑥ d) 1, 2, 3, ⑥
e) 1, 3, 5, ⑮ f) 1, 3, ⑨
g) 1, 2, 3, ⑥
6. Several possible answers, including:

	Multiple of 3	Common factor of 20 and 30	Factor of 56
Odd number	3	1	7
Common factor of 36 and 12	6	2	4
> 4	9	5	8

Pages 20–21

1. a) 9 b) 100
c) 16 d) 36
e) 4 f) 144
g) 25 h) 49
i) 64 j) 1
k) 81 l) 121
2. odd
3. a) Check all the numbers have been crossed out except those listed in b).
b) 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97
c) Each number only has two factors, 1 and itself.

Pages 22–23

1. a) 4 b) 5
c) 4 d) 9
e) 3 f) 10
2. a) 10, $2n$
b) 13, $2n + 3$
3. a) 31 b) 49
c) 160 d) 5
e) 2 f) 54
4. a) $[x = 1, y = 24]$ $[x = 2, y = 12]$ $[x = 3, y = 8]$
 $[x = 4, y = 6]$ $[x = 6, y = 4]$ $[x = 8, y = 3]$
 $[x = 12, y = 2]$
 $[x = 24, y = 1]$
b) $x = 8, y = 3$

Pages 24–25

1. a) 6 b) 16
c) 1 d) 3
e) 5 f) 16
g) 54 h) 10
i) 9 j) 80
k) 8 l) 7
2. a) < b) < c) < d) <
e) > f) > g) > h) <
3. a) melons b) James
c) cup d) non-fiction

Pages 26–27

1. a) 18, 56, 80, 60
b) 32, 28, 84, 200
c) 27, 69, 135, 81
d) 63, 21, 77, 49
2. a) $2\frac{2}{3}$
b) $2\frac{2}{5}$
c) $2\frac{2}{4}$ (or $2\frac{1}{2}$)
d) $6\frac{1}{2}$
e) $1\frac{1}{2}$
f) $3\frac{1}{3}$

3. a) £12
b) 18
c) 160m
d) 0.9 kg (or 900 g)
e) 20
4. a) $\frac{3}{4}$ of 4.4 kg
b) $\frac{7}{10}$ of 4 kg
c) $\frac{3}{5}$ of 4.5 kg
d) $\frac{3}{4}$ of 1.2 kg

Pages 28–29

1. a) $2\frac{7}{8}$ b) $1\frac{1}{10}$
c) $1\frac{11}{15}$ d) $3\frac{19}{20}$
e) $1\frac{3}{20}$ f) $4\frac{39}{40}$
2. a) $2\frac{1}{2}$ b) $3\frac{1}{9}$
c) $1\frac{1}{5}$ d) $2\frac{13}{24}$
e) $\frac{13}{20}$ f) $1\frac{1}{20}$
3. a) $2\frac{1}{20}$ b) $3\frac{7}{30}$
c) $3\frac{27}{40}$ d) $3\frac{13}{15}$
e) $1\frac{1}{4}$ f) $3\frac{3}{5}$
4. $\frac{1}{3} + \frac{1}{6} = \frac{1}{2}$
 $\frac{3}{10} + \frac{1}{5} = \frac{1}{2}$
 $\frac{3}{8} + \frac{1}{4} = \frac{5}{8}$
5. a) $\frac{3}{8}$ b) $\frac{1}{2}$
c) $\frac{8}{15}$ d) $\frac{1}{12}$
e) $\frac{3}{5}$ f) $\frac{1}{4}$
6. Various possible answers, all the fractions should total 1.

Page 30

1. (4, 8) 2. 72, 36
3. 25 4. 43
5. 28 6. 25
7. 16 8. 6
9. 72, 48 10. 36
11. 1, 3, 7, 21 12. 48
13. 3 14. 64
15. 23 16. 15
17. $3n$ 18. 121
19. 1, 3, 9 20. 12

Page 31

1. $\frac{6}{15}, \frac{6}{16}$ 2. Tuesday
3. 60 4. <
5. $3\frac{1}{8}$ 6. $\frac{3}{4}$ of 4.8 km
7. $4\frac{39}{40}$ 8. 14
9. $\frac{25}{35}, \frac{12}{16}$ 10. $\frac{5}{9} < \frac{4}{7} < \frac{2}{3}$
11. $\frac{3}{10}$ of 5 kg 12. $2\frac{3}{20}$
13. $1\frac{1}{6}$ 14. 27

15. 36
17. >
19. $\frac{3}{10}$ m
16. $4\frac{4}{5}$
18. $3\frac{43}{60}$
20. $\frac{9}{10}$ of the cake

Pages 32–33

1. a) 0.7 b) 0.9
c) 0.4 d) 0.8
e) 0.5 f) 0.75
g) 0.45 h) 0.08
i) 0.33 j) 0.09
k) 0.63 l) 0.15
2. a) $\frac{1}{2}$ b) $\frac{3}{10}$
c) $\frac{7}{10}$ d) $\frac{4}{5}$
e) $\frac{2}{5}$ f) $\frac{21}{50}$
g) $\frac{4}{25}$ h) $\frac{39}{50}$
i) $\frac{17}{20}$
3. a) $4\frac{2}{10} = 4.2$ b) $9\frac{4}{10} = 9.4$
c) $3\frac{8}{10} = 3.8$ d) $11\frac{6}{10} = 11.6$
e) $4\frac{5}{10} = 4.5$ f) $3\frac{4}{100} = 3.04$
g) $5\frac{78}{100} = 5.78$ h) $10\frac{6}{100} = 10.06$
i) $6\frac{35}{100} = 6.35$
4. A $\frac{81}{100}$, 0.81 B $\frac{21}{25}$, 0.84 C $\frac{43}{50}$, 0.86
D $\frac{87}{100}$, 0.87 E $\frac{22}{25}$, 0.88 F $\frac{89}{100}$, 0.89
5. a) $\frac{7}{100}, \frac{3}{10}, \frac{37}{100}, \frac{7}{10}$
b) $\frac{41}{100}, \frac{1}{2}, \frac{3}{5}, \frac{7}{10}$
c) $\frac{1}{50}, \frac{2}{25}, \frac{14}{50}, \frac{4}{5}$
d) $\frac{29}{50}, \frac{18}{25}, \frac{3}{4}, \frac{4}{5}$

Pages 34–35

1. a) $\frac{1}{2} = 0.5 = 50\%$
b) $\frac{1}{4} = 0.25 = 25\%$
c) $\frac{1}{5} = 0.2 = 20\%$
d) $\frac{2}{5} = 0.4 = 40\%$
e) $\frac{17}{50} = 0.34 = 34\%$
f) $\frac{7}{10} = 0.7 = 70\%$
g) $\frac{7}{100} = 0.07 = 7\%$
h) $\frac{11}{25} = 0.44 = 44\%$
2. a) $\frac{4}{5}$ b) $\frac{13}{25}$
c) $\frac{3}{5}$ d) $\frac{17}{50}$
e) $\frac{7}{20}$ f) $\frac{13}{20}$
g) $\frac{1}{50}$ h) $\frac{49}{50}$
3. a) 70% b) 75%
c) 80% d) 90%
e) 60% f) 79%
4. a) Beth
b) $\frac{45}{50}, \frac{4}{5}, \frac{79}{100}, \frac{15}{20}, \frac{7}{10}, \frac{15}{25}$

Answers

5. a) $\frac{3}{4}$ blue, $\frac{3}{20}$ red, $\frac{1}{20}$ white, $\frac{1}{20}$ yellow
 b) $\frac{3}{5}$ blue, $\frac{3}{10}$ yellow, $\frac{2}{25}$ white, $\frac{1}{50}$ black
 c) $\frac{11}{20}$ yellow, $\frac{1}{4}$ red, $\frac{9}{50}$ white, $\frac{1}{50}$ black
 6. a) 1 litre b) 1.6 litres c) 3.6 litres

Pages 36–37

1.

	What is?				
	10% of ...	20% of ...	5% of ...	50% of ...	25% of ...
£20	£2	£4	£1	£10	£5
£60	£6	£12	£3	£30	£15
£50	£5	£10	£2.50	£25	£12.50
£24	£2.40	£4.80	£1.20	£12	£6

2. a) £3, £9 b) £7, £28
 c) £2.50, £7.50 d) £0.80, £0.40
 e) £0.60, £1.20 f) £4, £48
 3. a) Amount off: £4; New cost: £36
 b) Amount off: £6; New cost: £54
 c) Amount off: £14; New cost: £56
 d) Amount off: £10; New cost: £15
 e) Amount off: £4; New cost: £76

Pages 38–39

1. a) $\frac{1}{2}$ (or $\frac{3}{6}$) b) $\frac{1}{2}$ (or $\frac{4}{8}$)
 c) $\frac{7}{10}$ d) $\frac{2}{5}$
 e) $\frac{3}{4}$ (or $\frac{6}{8}$) f) $\frac{4}{5}$
 2. a) 1 : 1 b) 1 : 1 c) 7 : 3
 d) 2 : 3 e) 3 : 1 f) 4 : 1
 3. a) 18 b) 3 : 1 c) 24
 4. a) 300g flour, 150g butter, 100g sugar, 50g chocolate chips
 b) 450g flour, 225g butter, 150g sugar, 75g chocolate chips

Pages 40–41

1. a) 90, 80, 80, 80, 70, 70, 60, 50, 50
 b) 70 c) 80 d) 70
 2. a) 140cm b) 140cm c) 150cm
 3. Median: 29 seconds; Mode: 28 seconds; Mean: 30 seconds
 4. Median: 10cm; Mode: 10cm; Mean: 10cm

Page 42

1. $\frac{3}{10}, \frac{4}{5}$ 2. $\frac{72}{100}, \frac{2}{10}$
 3. 0.2, 0.6 4. 0.5, 50%
 5. $\frac{2}{5}, \frac{13}{50}$ 6. $6\frac{8}{10} = 6.8, 7\frac{5}{10} = 7.5$
 7. 0.09, 9% 8. £3
 9. $\frac{17}{20}, \frac{1}{4}$ 10. £40
 11. 0.25, 0.7 12. 0.4, 40%
 13. £4.50 14. $\frac{9}{25}, \frac{57}{100}$
 15. £4 16. $\frac{1}{20}, \frac{4}{25}$
 17. 0.3, 0.09 18. $\frac{4}{5}, \frac{8}{100}$
 19. 0.55, 55% 20. $1\frac{18}{100} = 1.18, 3\frac{55}{100} = 3.55$

Page 43

1. 10 2. 100g
 3. 200g 4. 1 : 3
 5. 28 6. 30
 7. 29 8. $\frac{1}{2}$
 9. 1 : 1 10. $\frac{3}{4}$
 11. 170cm 12. 170cm
 13. 175cm 14. 12°C
 15. 12°C 16. 12°C
 17. 5 18. 17
 19. 16 20. mode