Bond No Nonsense 10–11 years Answers

① Numbers and place value pp2–3

1 **a** 6 038 002 **b** 9 100 055 **c** 3 577 011
d 5 801 360 **e** 9 999 909
2 **a** 70 000 **b** 8 000 **c** 3 000 000
d 90 000 **e** 100
3 **a** four million, three hundred and twenty-three thousand, six hundred and seventy-five
b three hundred and eight thousand and four
c seven million, four thousand, three hundred and ninety-nine
4 **a** 1 000 000 110 011 100 100 100 001 11 011
b 3 617 423 3 167 243 2 736 541 2 634 751 2 367 451
c 6 655 442 5 566 442 5 544 662 4 466 552 4 455 662
5 **a** 56 438 > 56 348 **b** 156 839 < 165 893
c 33 765 > 33 675 **d** 58 375 < 58 377
e 9 867 563 < 9 876 562 **f** 776 777 > 776 677
6 **a** 1 000 **b** 1 **c** 200 **d** 200 000

Challenge yourself
Answers will vary

② Number sequences and properties pp4–5

1 **a** the numbers decrease 13 at a time
b the numbers decrease 25 at a time
c the numbers decrease 0·25 at a time
2 **a** 90, 112, 134, 156, 178 **b** 375, 352, 329, 306, 283
c 39, 23, 7, –9, –25 **d** 271, 280, 289, 298, 307
3 **a** 3, 5 **b** 2, 4 **c** 3, 5, 9 **d** 2, 5, 10 **e** 2, 3, 4, 6, 7
f 3 **g** 2, 4 **h** 2, 3, 4, 6, 11, 12 **i** 5
j 2, 3, 4, 6, 8, 9
4 The last two digits would have to be 00, 25, 50 or 75.

Challenge yourself
a 8, 13, 21, 34, 55; Add together the last two numbers
b 32, 64, 128, 256, 512; Double the last number
c 122, 365, 1 094, 3 281, 9 842; Multiply the last number by 3 and take away 1 (or equivalent)

③ Addition and subtraction pp6–7

1 **a** 12 540 **b** 9 599 **c** 4 689 **d** 3 889 **e** 5 873
f 68 **g** 8 810 **h** 8 777 **i** 845
2 **a** 4 857 **b** £145
c Yes, there is 42p left. **d** 1 289 seats, 2 176 seats

Challenge yourself
a 99 762 **b** 26 799 **c** 126 561 **d** 72 963

④ Short and long multiplication pp8–9

1 **a** 112 **b** 390 **c** 192 **d** 1897 **e** 978 **f** 1547

2 **a**
422 × 23
8 440 (422 × 20)
1 266 (422 × 3)
9 706

b
521 × 27
10 420 (521 × 20)
3 647 (521 × 7)
14 067

c
151 × 31
4 530 (151 × 30)
151 (151 × 1)
4 681

d
202 × 34
6 060 (202 × 30)
808 (202 × 4)
6 868

e
1 235 × 41
49 400 (1 235 × 40)
1 235 (1 235 × 1)
50 635

f
2 351 × 51
17 550 (2 351 × 50)
2 351 (2 351 × 1)
119 901

Challenge yourself
a 6110 **b** £13·44 **c** 3375

⑤ Times tables pp10–11

1 18 49 56 16 18 54 36 42 21 9 45 40 80 54 24
40 27 64 48 0 35 14 81 25 24 28 4 100 50 1 12 30
60 32 44 21 81 7 108 10 121 24 48 27 70 15 77 144
2 **a** 45 **b** 64 **c** 21 **d** 32 **e** 63 **f** 36 **g** 60 **h** 40
i 56 **j** 18 **k** 16 **l** 96
3 **a** 5 **b** 9 **c** 2 **d** 8 **e** 7 **f** 8 **g** 10 **h** 8
i 8 **j** 3 **k** 9 **l** 10

Challenge yourself
Answers will vary but include
a $4 \times 6 = 24$ **b** $6 \times 9 = 54$ **c** $6 \times 8 = 48$ **d** $7 \times 7 = 49$
e $1 \times 2 = 2$ **f** $9 \times 8 = 72$ **g** $6 \times 6 = 36$ **h** $2 \times 9 = 18$
i $3 \times 3 = 9$ **j** $7 \times 9 = 63$

⑥ Mode, median and mean pp12–13

1 **a** Mode = 3, Median = 5
b 1 1 1 2 3 4 6 6 7 Mode = 1, Median = 3
c 2 2 2 3 5 5 6 7 9 Mode = 2, Median = 5
2 129 131 131 131 132 133 136 136 137 138 139
Mode = 131, Median = 133
3 4 **4** 43 kg

Challenge yourself
Answers will vary

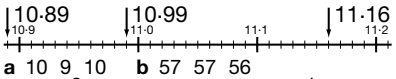
⑦ Fractions pp14–15

1 **a** $\frac{2}{10}$ $\frac{3}{15}$ $\frac{4}{20}$ $\frac{5}{25}$ $\frac{6}{30}$ **b** $\frac{2}{12}$ $\frac{3}{18}$ $\frac{4}{24}$ $\frac{5}{30}$ $\frac{6}{36}$
2 **a** $\frac{10}{12}$ or $\frac{5}{6}$ **b** $1\frac{8}{9}$ **c** $\frac{3}{10}$ **d** $\frac{1}{3}$ **e** 4 **f** $\frac{3}{9}$ or $\frac{1}{3}$
3 $\frac{1}{12}$ $\frac{1}{4}$ $\frac{3}{6}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{11}{12}$
4 **b** $5\frac{1}{3}$ **c** $5\frac{1}{4}$ **d** $5\frac{1}{9}$ **e** $4\frac{2}{7}$ **f** $8\frac{1}{2}$ **g** 4 **h** $3\frac{1}{8}$
5 Answers could include:
a $\frac{3}{4}$ $\frac{6}{8}$ $\frac{12}{16}$ **b** $\frac{4}{14}$ $\frac{6}{21}$ $\frac{8}{28}$ **c** $\frac{2}{2}$ $\frac{3}{3}$ $\frac{4}{4}$
d $\frac{22}{20}$ $\frac{33}{30}$ $\frac{44}{40}$ **e** $\frac{4}{10}$ $\frac{2}{5}$ $\frac{20}{50}$ **f** $\frac{1}{2}$ $\frac{2}{4}$ $\frac{12}{24}$
6 **b** $\frac{9}{10}$ **c** $\frac{1}{4}$ **d** $\frac{1}{3}$

Challenge yourself
a $\frac{1}{12}$ **b** $\frac{1}{10}$ **c** $\frac{1}{18}$ **d** $\frac{1}{20}$ **e** $\frac{1}{8}$ **f** $\frac{1}{12}$ **g** $\frac{1}{16}$ **h** $\frac{1}{9}$

⑧ Decimals pp16–17

1 **a** 8·32 **b** 2·601 **c** 13·19 **d** 6·054 **e** 22·81 **f** 5·55
2 **a** 3·34, 3·36, 3·38, 3·40 **b** 4·80, 4·85, 4·90, 4·95
3

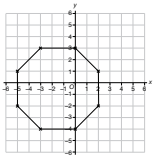


4 **a** 10 9 10 **b** 57 57 56
5 99% $\frac{2}{3}$ 0·55 0·375 25% $\frac{1}{8}$

Challenge yourself
× 10 = 42·3 70·6 169
× 100 = 423 706 1 690
× 1 000 = 4 230 7 060 16 900
÷ 10 = 2·49 15·612 77·42
÷ 100 = 0·249 1·5612 7·742
÷ 1 000 = 0·0249 0·15612 0·7742

⑨ Coordinates pp18–19

1 octagon



2 Answers will vary

A2

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Challenge yourself
a (–5, –2), (–2, –2), (–5, –5), (–2, –5)
b (2, 5), (5, 5), (2, 2), (5, 2)

How am I doing? pp20–21

1 **a** 5 566 645, 5 644 345, 5 654 345, 5 664 345
b 1 923 547, 1 923 647, 1 923 648, 1 923 748
2 **a** 8·0, 9·3, 10·6, 11·9 **b** 88, 71, 54, 37
3 **a** 7615 **b** 5117 **c** 216 **d** 451
4 **a** 2000 **b** 7014 **c** 2000
5 **a** 21 **b** 7 **c** 6 **d** 63 **e** 5 **f** 4 **g** 9 **h** 8 **i** 9
6 **a** 5 **b** 7
7 **a** $\frac{2}{4}\ \frac{3}{6}\ \frac{4}{8}\ \frac{5}{10}\ \frac{6}{12}$ **b** $\frac{2}{10}\ \frac{3}{15}\ \frac{4}{20}\ \frac{5}{25}\ \frac{6}{30}$ **c** $\frac{2}{6}\ \frac{3}{9}\ \frac{4}{12}\ \frac{5}{15}\ \frac{6}{18}$
8 **a** 4567 **b** 782·3 **c** 21 545·5
9 (1, –3), (1, 1), (–3, –3), (1, 1)

10 Negative numbers pp22–23

1 **b** –18, –15, 2, 5, 20, 33 **c** –12, –2, 0, 1, 2, 12
d –54, –36, –28, –21, –14, –12 **e** –14, –5, –1, 16, 21, 31
f –303, –300, –30, –3, 30, 33 **g** –14, –7, 21, 38, 61, 62
2 **a** 4 °C **b** 0 °C **c** 15 °C **d** 21 °C **e** –8 °C **f** 29 °C

Challenge yourself
Answers will vary

11 Multiplication involving decimals pp24–25

1 **b** $4 \times 4 = 16$ **c** $3 \times 8 = 24$ **d** $6 \times 2 = 12$
e $10 \times 6 = 60$ **f** $1 \times 9 = 9$
2 **a** $4{\cdot}0 \times 4 = 16{\cdot}0$, $0{\cdot}9 \times 4 = 3{\cdot}6$, 19·6
b $7{\cdot}0 \times 8 = 56{\cdot}0$, $0{\cdot}1 \times 8 = 0{\cdot}8$, 56·8
c $3{\cdot}0 \times 2 = 6{\cdot}0$, $0{\cdot}6 \times 2 = 1.2$, 7·2
d $5{\cdot}0 \times 7 = 35{\cdot}0$, $0{\cdot}8 \times 7 = 5{\cdot}6$, 40·6
e $1{\cdot}0 \times 9 = 9{\cdot}0$, $0{\cdot}9 \times 9 = 8{\cdot}1$, 17·1
f $3{\cdot}0 \times 6 = 18{\cdot}0$, $0{\cdot}5 \times 6 = 3{\cdot}0$, 21·0
3 **a** 11·8 **b** 39·6 **c** 30·6
4 **a** $3{\cdot}00 \times 4 = 12{\cdot}00$, $0{\cdot}20 \times 4 = 0{\cdot}80$, $0{\cdot}01 \times 4 = 0{\cdot}04$, 12·84
b $6{\cdot}00 \times 5 = 30{\cdot}00$, $0{\cdot}10 \times 5 = 0{\cdot}50$, $0{\cdot}09 \times 5 = 0{\cdot}45$, 30·95
c $4{\cdot}00 \times 3 = 12{\cdot}00$, $0{\cdot}60 \times 3 = 1{\cdot}80$, $0{\cdot}07 \times 3 = 0{\cdot}21$, 14·01
d $2{\cdot}00 \times 6 = 12{\cdot}00$, $0{\cdot}10 \times 6 = 0{\cdot}60$, $0{\cdot}08 \times 6 = 0{\cdot}48$, 13·08

Challenge yourself
a £48·75 **b** £51·75

12 Division pp26–27

1 **a** 51 **b** 102 **c** 61 **d** 162 **e** 143 **f** 31 r1
g 31 r1 **h** 71 r2 **i** 82 **j** 71 r4 **k** 91 r1 **l** 93 r1
m 31 **n** 24 r3
2 **a** 20 r5 **b** 40 r7 **c** 20 r9 **d** 30 r3

Challenge yourself
a £12·45 **b** £55·50

13 Calculations pp28–29

1 **b** even **c** even **d** even **e** even **f** odd **g** odd
2 **a** ✗ **b** ✓ **c** ✗ **d** ✗ **e** ✓ **f** ✗ **g** ✗ **h** ✗ **i** ✓

Challenge yourself
a 61 **b** 5 **c** 48 **d** 105

14 Percentages p30–31

1

Fractions	Decimals	Percentages
$\frac{1}{100}$	**0·01**	1%
$\frac{2}{100}$	0·02	**2%**
$\frac{17}{100}$	**0·17**	**17%**
$\frac{1}{5}$	**0·2**	**20%**
$\frac{1}{4}$	**0·25**	25%
$\frac{35}{100}$	0·35	**35%**
$\frac{1}{2}$	**0·5**	**50%**
$\frac{6}{10}$	**0·6**	**60%**
$\frac{3}{4}$	0·75	**75%**
1	**1.0**	100%

2 **a** 2 4 **b** 5 10 **c** 12 24 **d** 24 48
3 **a** 15 **b** 70 **c** 13 **d** 16 **e** 6 **f** 20 **g** 50 **h** 9

Challenge yourself
a £8.00 **b** £6.40 **c** £12.00

15 Rounding numbers pp32–33

1 **a** 45 400, 50 000 **b** 8 690 000, 9 000 000
c 60 000, 59 000 **d** 3 459 000, 3 500 000
e 865 000, 860 000 **f** 9 920 000, 9 919 960
2 **a** 0·47 **b** 0·38 **c** 0·72 **d** 0·13
e 0·88 **f** 0·66 **g** 3·39 **h** 9·11
i 5·63 **j** 4·49 **k** 7·23 **l** 2·57
3 **a** 0·5 **b** 0·76 **c** 0·899 **d** 5·3
e 2·79 **f** 0·997 **g** 5·91 **h** 2·889
i 3·01 **j** 2·6

Challenge yourself
Answers will vary

16 Measurements pp34–35

1 **a** mm **b** g **c** m **d** l **e** g **f** cm
2 **a** 1 500 g **b** 1 000 mm **c** 0·3 litres **d** 0·125 kg
e 2 250 m **f** 50 ml
3 **a** 1·65 m or 165 cm **b** 260 g **c** 171 156 m
4 **a** 40 miles **b** 9 miles **c** 25 miles

Challenge yourself
250 g flour 570 ml milk 2 eggs

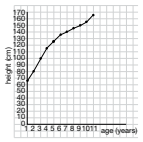
17 Solving problems pp36–37

1 e.g. **a** $26 \div 15$ **b** 28×43
2 the money is in the biscuit tin

Challenge yourself
Answers will vary

18 Line graphs pp38–39

1



Najib's height

2 **a** 115 cm **b** 155 cm **c** 15 cm **d** 15 cm
e 1–3 yrs or 2–4 yrs **f** 6–10 yrs **g** 100 cm or 1 m

Challenge yourself

How am I doing? pp40–41

1 **a** 14 °C **b** 14 °C **c** 28 °C
2 **a** 53·6 **b** 17·1
3 **a** 41 r2 **b** 24
4 **a** even **b** even **c** odd **d** even
5 **a** 50% **b** 10% **c** 100% **d** 23% **e** 70% **f** 20%
6 **a** 567·98 **b** 0·79 **c** 4·33 **d** 67·68 **e** 33·93 **f** 1·97
7 **a** millilitres **b** metres **c** grams **d** centimetres

19 Algebra pp42–43

1 **a** 72 **b** 19 **c** 41 **d** 6 **e** 52
f 16 **g** 15 **h** 99 **i** 42
2 **a** $a = 2$ **b** $b = 3$ **c** $m = 6$ **d** $c = 7$ **e** $t = 10$ **f** $b = 2$
3 **a** nth term = $3n$ **b** nth term = $5n$ **c** nth term = $7n$
d nth term = $10n$ **e** nth term = $4n$
4 **a** 140 **b** 176 **c** 194 **d** 75

Challenge yourself
a $2n + 1$ **b** $4n + 3$

20 Square, cube and triangular numbers pp44–45

1 **b** 64 **c** 5^2, 25 **d** 2^2, 4 **e** 9^2, 81 **f** 12^2, 144
g 7×7, 49 **h** 11×11, 121
2

1	**4**	**9**	16	**25**	**36**	49	**64**	**81**	100	**121**	**144**

A3

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3 **a** 4^3, 64 **b** 2^3, 8 **c** 6^3, 216
d 9^3, 729 **e** 5^3, 125 **f** 7^3, 343

4 **b** 1, **8**, **27**, 64, **125**, **216**, 343, **512**, **729**, **1000**

5 | 1 | 3 | 6 | **10** | **15** | **21** | **28** |

6 The sequence of triangular numbers is built up by 1 (+2), 3 (+3), 6 (+4) 10 (+5) and so on.

Challenge yourself

169	45	120	225

21 Factors, multiples and prime numbers pp46–47

1 **a** 2 5 10 **b** 4 5 10 **c** 9 2 18 **d** 1 2 31 **e** 9 3 27 6

2 **a** 36 78 60 **b** 81 117 36 **c** 60 144 84 **d** 49 28 105
e 15 215 90

3 Coloured numbers: 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

Challenge yourself
a coloured **b** 24th

22 Estimation pp48–49

1 **a** 3000 **b** 85 **c** 550 **d** 8000 (approx.)

2 **a** 

650 (approx.)

b 

2800 (approx.)

c 

−25 (approx.)

3 **a** 50 (approx.) **b**, **c**, **d** Answers will vary

Challenge yourself
Spending one week on holiday, spending ten days in Spain and spending a fortnight skiing are all possible in the time given. Children may refer to having worked out how many days 1300000 seconds are equivalent to (15 days).

23 Ratio and proportion pp50–51

1 **b** 1:1 1 to every 1 **c** 2:3 2 to every 3 **d** 1:2 1 to every 2
e 3:2 3 to every 2 **f** 2:2 or 1:1 2 to every 2 (or 1 to every 1)

2 **b** $\frac{1}{2}$ **c** $\frac{2}{5}$ **d** $\frac{1}{3}$ **e** $\frac{3}{5}$ **f** $\frac{2}{4}$ or $\frac{1}{2}$

3 **a** 12 girls **b** 6 cakes **c** 16 fish **d** 2 hours 20 minutes

Challenge yourself
The ratio of shape a to shape b is 3:1. The proportion of b's squares to the the total number is $\frac{1}{4}$.

24 Area and perimeter p52–53

1 **a** P = 28 cm A = 45 cm^2 **b** P = 40 cm A = 82 cm^2
c P = 30 cm A = 42 cm^2

2 **a** r = 50 cm^2 t = 25 cm^2 **b** r = 28 cm^2 t = 14 cm^2
c r = 40 cm^2 t = 20 cm^2

3 **a** 45 cm^2 **b** 42 cm^2 **c** 24 cm^2

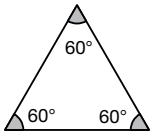
Challenge yourself
50 cm, 28 cm, 22 cm, 20 cm
5 different perimeters

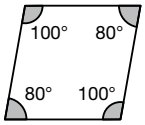
25 Angles pp54–55

1 **a** b = 45° **b** c = 280° **c** b = 57° **d** b = 108°
e c = 245° **f** b = 88°

2 **a** a = 105° **b** a = 80° **c** a = 62°

Challenge yourself

a 

b 

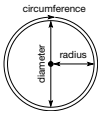
Not to scale

26 Shapes pp56–57

1 **a**  **b** **Example:**  **c** 

2 **a** cylinder **b** cube **c** triangular prism

A4

3 

4 **a** kite **b** parallelogram **c** scalene triangle **d** trapezium

Challenge yourself
Answers will vary

27 Volume pp58–59

1 **a** 24 cm^3 **b** 15 cm^3 **c** 32 cm^3
d 50 cm^3 **e** 27 cm^3 **f** 60 cm^3

2 **a** 80 cm^3 **b** 96 cm^3 **c** 36 cm^3
d 125 cm^3 **e** 84 cm^3 **f** 72 cm^3

Challenge yourself
a 3 cm **b** 6 cm **c** 8 cm

28 Probability pp60–61

1 **b** certain **c** unlikely, possible **d** possible **e** impossible
f answers will vary **g** answers will vary

2 Answers will vary

3 Answers will vary

Challenge yourself
a $\frac{1}{6}$ **b** $\frac{1}{6}$ **c** $\frac{1}{6}$ **d** $\frac{1}{6}$

How am I doing? pp62–63

1 **a** 119 **b** 33

2 Answers will vary but could include:
square numbers 25, 36, 49, 64, 81
triangular numbers 21, 28, 36, 45, 55

3 **a** 5, 3 **b** 15, 3, 5, 2, 6, 10 **c** 2, 7, 42, 12

4 **a** 

28 (approx.)

b 

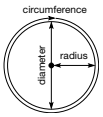
650 (approx.)

c 

2800 (approx.)

5 ratio = 3:4
proportion = $\frac{3}{7}$ black, $\frac{4}{7}$ white

6 P = 36 cm A = 68 cm^2 **7** **a** 115° **b** 70°

8 

9 Answers will vary

10–11 years assessment pp64–65

1 220·8

2 A prime number is only divisible by itself and 1.
Answers will vary but include: 3, 5, 7, 11, 13, 17

3 **a** 100% **b** 50%

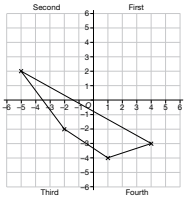
4 Mode = 6 Median = 6

5 15 °C **6** 22 **7** No **8** 29 **9** 28·8 **10** Yes

11 $6\frac{2}{8}$ or $6\frac{1}{4}$ **12** 2·87, 2·78, 2·287, 2·278, 0·278

13 **a** 8·9 **b** 12·8 **c** 333·3

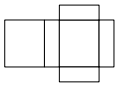
14 12376 **15** 23rd term = 138

16 

17 Answers will vary **18** 8 **19** Answers will vary **20** 24

21 **a** triangle **b** acute **c** quadrilateral

22 A = 37 cm^2 P = 26 cm

23 

24 Answers will vary **25** Volume = length × width × height

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