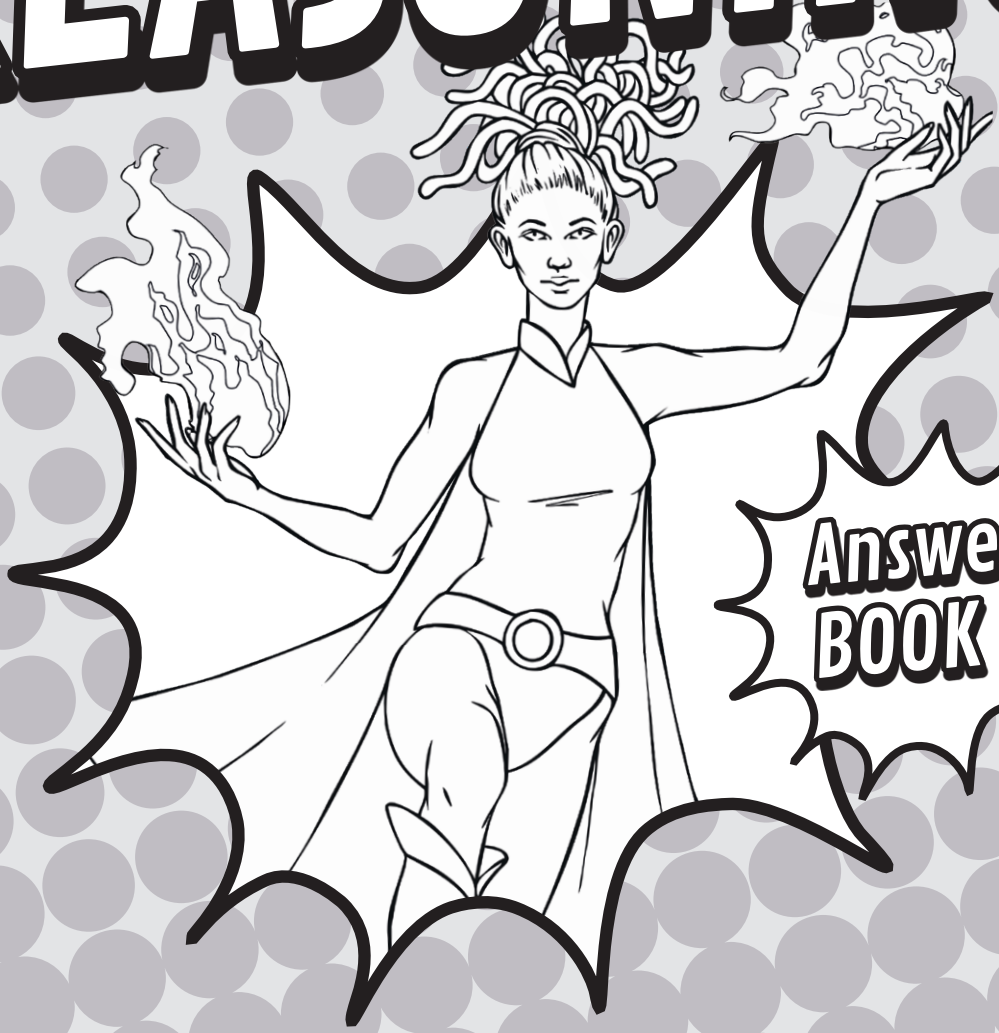
STUDY SQUAD

KS2 Maths

SATs Practice Workbook

Ages 10-11

REASONING



Answer BOOK 1

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Section 1 - Number and Place Value

Page 3-6 – Reasoning About Place Value

1) nine hundred and thirty-two thousand, four hundred and seven

2) a) 7
b) 6

3) 1 996 000

4) 1 787 921

5) Accept any answer that references that Felix has **incorrectly read the place value position of the digits 4 and 3.** For example:

Felix has written that the value of the digits 4 and 3 represent 4 ten thousands and 3 thousands but they actually represent **4 hundreds and 3 tens.**

Also accept the number written in words correctly – **sixteen million, one hundred thousand, four hundred and thirty-nine.**

6) 7531

Page 7-10 – Comparing and Ordering Positive Integers

1) 6 437 101

2) a) Smallest: 323 720
b) Greatest: 332 718

Award **one** mark for **two** correct answers.

c) Smallest: 7 019 110
d) Greatest: 7 091 909

Award **one** mark for **two** correct answers.

3) 6 760 481 = 1st
6 570 481 = 2nd
6 075 481 = 3rd
6 057 481 = 4th

If any number has been matched to more than one other, do not accept this as a correct match.

4) Accepted answers:

a) 5 62**0** 073 5 62**1** 073 5 62**2** 073
5 62**3** 073 5 62**4** 073 5 62**5** 073
5 62**6** 073 5 62**7** 073

b) 5 628 **0**46 5 628 **1**46 5 628 **2**46
5 628 **3**46 5 628 **4**46 5 628 **5**46
5 628 **6**46 5 628 **7**46 5 628 **8**46
5 628 **9**46

c) **5** 937 348

d) 6 **0**42 763

e) 6 042 76**4** 6 042 76**5** 6 042 76**5**
6 042 76**6** 6 042 76**7** 6 042 76**8**
6 042 76**9**

Award **three** marks for **five** correct answers.

Award **two** marks for **three** or **four** correct answers.

Award **one** mark for **two** correct answers.

5. Accept answers that refer to the **9 being in the ten thousands column** and the **8 being in the hundred thousands column;** therefore, **the value of the digit 8 is greater than the value of the digit 9.**

Accept answers that refer to Drew **not considering the place value of each digit.**

Page 11-14 – Negative Integers

1. a) -11
b) -2

2. 17, 12, 7, 2

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3. a) 41
   b) Hero Hideaway

4. Disagree

   Accept answers that refer to there being **26 floors or** that Doctor Digit has not included **floor 0**

   The word 'Disagree' does not have to be circled to award the mark provided that the explanation is acceptable.

Page 15-18 – Comparing and Ordering Decimals

1) 1.54m, 1.62m, 1.7m, 1.77m, 1.82m

2) a) 0.9 > 0.09
   b) 1.2 < 1.22
   c) 3.122 < 3.211

Award one mark for three correct answers.

3) 4.004, 0.49 and 0.54

   Award one mark for all three numbers indicated.

   Accept answers that clearly indicate all three numbers in other ways, such as ticking.

   Do not award the mark if any other numbers are indicated.

4) 1.65

5) Accept answers that refer to Jia not considering the place value of each digit. For example: The digits 3 and 4 in 7.34 are worth 3 tenths and 4 hundredths. The digit 4 in 7.4 is worth 4 tenths. 4 tenths is greater than 3 tenths.

Page 19-22 – Rounding Positive Integers

1) a) 48 270 000
   b) 48 275 000
   c) 48 274 700

   Award two marks for three correct answers.

   Award one mark for any two correct answers.

2) a) 696
   b) 721

   Award two marks for two correct answers.

   Award one mark for one correct answer.

3) 3124

4) 5, 6, 7 or 8

   Award **two** marks for 5, 6, 7 **and** 8 and no incorrect answers.

   Award **one** mark for: three correct answers and no more than one incorrect answer; 5, 6, 7 and 8 and no more than one incorrect answer.

   Two numbers with a difference of 4, in the range 3496 inclusive to 3504 inclusive, e.g. 3498 and 3502

Page 23-26 – Rounding Decimals

1) a) 6
   b) 10
   c) 15
   d) 17

   Award **two** marks for **four** correct answers.

   Award **one** mark for **two or three** correct answers.

2) 32.68 and 32.72
   Both numbers and no others must be indicated to award the mark.

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3) a) 7.81, 7.84, 7.75

All three numbers and no others must be indicated to award the mark.

b) Accept two of the following:
7.80, 7.82 or 7.83 and
7.76, 7.77, 7.78 or 7.79

4) Award **two** marks for the correctly rounded answer of 77cm.

Award **one** mark for sight of 76.7

Accept any answer that refers to the **5 in the hundredths column** and explains that 5.65 rounded to the nearest tenth is 5.7

Page 27-30 – Roman Numerals

1) 2564

2) a) 345
b) 1509

3) XC = 110

Accept either 'XC' only or '110' only circled.

Accept answers that clearly indicate the mistake in other ways, such as ticking.

4) a) CCLIX
b) 661

5) 4:35 or equivalent, e.g. 25 to 5
Accept 16:35

a) CVII
(42 + 65 = 107)
b) CCCXXX
(620 – 290 = 330)

Page 31-32 – Number and Place Value Mixed Practice

a) 30 000
b) 8 010 070

2) a) 9 × 8 > 7 × 10
b) 180 ÷ 30 = 240 ÷ 40
c) 350 ÷ 5 < 320 ÷ 4
d) 50 × 5 > 3 × 80

Award **two** marks for all symbols correct.

Award **one** mark for **any three** symbols correct.

3) -2

4) a) 199 500
b) 200 499

5) 6.3, 6.13, 6.116, 3.6, 3.16

Accept answers that refer to: 8.45 rounded to 1 decimal place is 8.5 and 8.5 rounded to the nearest whole number is 9 whereas 8.45 rounded to the nearest whole number is 8

In 8.45, the tenths digit is 4 or below so when rounding it to the nearest whole number, it rounds to 8 whereas in 8.45, the hundredths digit is 5 or above so when rounding it to the nearest tenth, it rounds to the next multiple of 0.1 which is 8.5

This means that the tenths digit is now 5 or above so when rounding 8.5 to the nearest whole number, it would now round to 9

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Section 2 - Addition, Subtraction, Multiplication and Division

Page 35-38 – Written Addition

1) 32

2) 381 points

3) Accepted answers:
383 + 38 = 421
338 + 83 = 421
333 + 88 = 421
388 + 33 = 421

4) 130mm

5) Award **two** marks for the correct answer of 155 528

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error.

Page 39-42 – Written Subtraction

1) £6.49
Do not accept £649

2) 72 - 43 = 29

Award **two marks** for the following **three** calculations circled correctly:

500 –250, 770 – 520, 320 – 70

3) Award **one mark** for **one** or **two** calculations circled correctly, providing **no more than one incorrect calculation** is circled.

Accept answers that clearly indicate all three calculations in other ways, such as ticking.

Do not award any marks if two incorrect calculations are circled

4) Drew is incorrect.

Accept answers that give a **counterexample** where the difference between a 4-digit number and a 3-digit number is > 99 and < 1000

e.g. 1998 – 999 = 999
1000 – 900 = 100

5) Award **two** marks for the correct answer of **143 795** metres.

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error.

235 489 – 63 291 – 28 403 = 143 795

Page 43-46 – Written Multiplication

1) 13, 14, 15 or 16

2) a) 6 × 8 or 8 × 6

b) 4 × 9 or 9 × 4

Award **one mark** for **two** correct calculations.

Do not accept 36 = 6 × 6

3) Accept answers which imply that **42 must be added to 22 050**, e.g.
'Add another 42 on.'
'Do another 42'
'It's an extra 42'
'22 050 + 42'

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Do not accept vague explanations, e.g. 'Do the same sum but add 1 to the number', 'Do a times sum', 'Just another unit on'.

No mark is awarded for giving the answer 22 092 without an adequate explanation.

4) Award **two** marks for the correct answer of 12 506

If the answer is **incorrect**, award one mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error. Do not award any marks if:
the error is in the place value, for example, the omission of the 0 when multiplying by the 2 tens;
the final (answer) line of digits is missing.

5) Award **two** marks for the correct answer of 10 500

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** (example below) which contains no more than **one** arithmetical error.

35 × 5 = 175 175 × 60 = 10 500

Page 47-50 – Written Division

1) 13 packs

2) 7

3) 50 sections

4) Award **two** marks for the correct answer of 237 classes

5) If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error.

5) Award two marks for the correct answer of 37 trays.

If the answer is incorrect, award one mark for evidence of an appropriate method which contains no more than one arithmetical error.

Page 51-54 – Solving Missing Digit Problems

1) a) 1357 + 3689 = 5046
b) 39 309 + 6033 = 45 342

2) a) 4768 - 3336 = 1432

b) 76 341 - 4934 = 71 407

3) a) 8587 × 3 = 25 761
b) 9593 × 36 = 345 348

4) a) 693 ÷ 77 = 9
b) 2920 ÷ 8 = 365

5) a) 1864 ÷ 3 = 621 r 1
b) 1376 ÷ 3 = 458 r 2

Page 55-58 – Solving Multi-Step Problems

1) Award **two** marks for the correct answer of 30 849

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** (examples below) which contains no more than **one** arithmetical error.

90 382 – 27 018 = 63 364
63 364 – 32 515 = 30 849 or

27 018 + 32 515 = 59 533
90 382 – 59 533 = 30 849

Award **one** mark for sight of 63 364, 59 533 or 57 867

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2) Award **two** marks for the correct answer of 115 pupils.

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** (example below) which contains no more than **one** arithmetical error.

27 × 5 = 135
31 × 10 = 310
310 + 135 = 445
560 – 445 = 115

Award **one** mark for sight of 445 or 135 **and** 310

3) Award **two** marks for the correct answer of £11.50

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** (example below) which contains no more than **one** arithmetical error.

£25 ÷ 2 = £12.50
£12.50 × 4 = £50
£61.50 – £50 = £11.50

Award **one** mark for sight of 12.50 **and** 50

Award **one** mark for £11.50p or £1150 as evidence of an appropriate method.

Page 59-62 – Multiplying and Dividing by 10, 100 and 1000

1) 8030

2) 35 100

3) 4100 kg

4) height = 38.09cm
width = 7.24cm

5) 7.4 ÷ 100 = 0.074
7.4 ÷ 10 = 0.74
7.4 ÷ 1000 = 0.0074

Award **two** marks for all **three** calculations completed correctly.

Award **one** mark for **two** correct calculations completed correctly.

6) **Twinkl Party Wares is the best deal.**
Accept answers that show evidence of:
Twinkl Wholesalers: £136 ÷ 100 = £1.36 per balloon
Twinkl Party Wares: £1326 ÷ 1000 = £1.33 per balloon (rounded from £1.326)

Answers must explain that £1.33 is cheaper than £1.36

Page 63-66 – Multiplying and Dividing Decimals by Integers

1) The missing answers are 2.3, 1.5 and 9.2.

Award **two** marks for **three** correct answers.

Award **one** mark for **two** correct answers.

2) 106.5km

3) Any two decimals, each less than 1, with product of 0.15, e.g. 0.5 × 0.3 = 0.15

Accept two negative numbers with a product of 0.15, e.g. -0.3 × -0.5 = 0.15

4) Award **two** marks for the correct answer of £2.47

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error.

5) Award **two** marks for the correct answer of 1.54kg.

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate**

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method which contains no more than **one** arithmetical error.

Page 67-70 – Order of Operations (BIDMAS)

1) Accept answers that equal **40**, e.g.
80 ÷ 2 = 40
40 ÷ 1 = 40
160 ÷ 4 = 40

2) 36 + 4 × 5 = 56

3) (6 x 7) + 8 = 50

4) Award **two** marks for **three** correct answers, as shown:
(12 + 7) − 5 > (9 + 5) − 1
9 × (5 + 2) > (9 × 2) + 12
(12 × 2) ÷ 6 < 12 × (6 ÷ 2)

Award **one** mark for any two correct answers.

5) Award **two** marks for brackets placed correctly, as shown:
(12 × 5) + 15 = 75
63 ÷ (11 − 4) = 9
82 − (16 + 17) = 49

Award **one** mark for any two pairs of brackets placed correctly.

Page 71-74 – Multiples and Factors

1) Award **two** marks for 63, 90 and 108.

Award **one** mark for **two** numbers correctly placed.

2) 1, 2, 3 and 6
Award **two** marks for **all four** factors (in any order) and no incorrect answers.

Award **one** mark for: any **three correct** answers and **no incorrect** answers; **four correct** answers and no more than **one** incorrect answer.

3) Multiple of 6 and 4 = 12 and 24
Multiple of 6, not a multiple of 4 = 18
Not a multiple of 6 or 4 = 10

Award **two** marks for **all** numbers correctly placed.

Award **one** mark for **three** numbers correctly placed.

4) 1, 3 and 5
All three numbers, given in any order, must be given to award the mark.

5) 14 **and** 28
Both numbers must be given to award the mark.

Award **two** marks for **five** correct answers, as shown:
7 is a factor of 56
4 is a factor of 16
6 is a factor of 18
5 is a factor of 30
3 is a factor of 39

If the answer is incorrect, award **one** mark for **four** correct answers with no number repeated.

Page 75-78 – Estimating and Using the Inverse

1) Award **two** marks for **four** correct matches, as shown:
278 + 491 = 770
621 − 304 = 320
867 + 255 = 1130
905 + 422 = 1330
827 + 364 = 1190

Award **one** mark for **two** correct matches.

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If any calculation has been matched to more than one answer, do not accept this as a correct match.

2) 1100

Accept answers that clearly indicate 1100 in other ways, such as ticking.

3) Accept answers that show that 7059 can be made by adding 543 to 12 × 543, e.g.
'6516 + 543 = 13 × 543'
'13 × 543 is 543 more than 6516'
'6516 + 543'
Do not accept answers that simply calculate 13 × 543 = 7059 without an explanation.

4) a) 3808
b) 380 800
c) 44.8

Award **two** marks for **three** correct answers.

Award **one** mark for any **two** correct answers.

5) **Yes** – Zeke has enough money.

Accept answers which **round** the prices to the nearest ten pence (tenth of a pound) or whole pound to estimate the total, e.g.
When rounded the the nearest **ten pence**, the items cost:
£1.20 + £2.10 + £10.60 = £13.90 or

When rounded to the nearest **whole pound**, the items cost: £1 + £2 + £11 = £14

Accept answers that refer to the estimation being less than £15

The word 'Yes' does not have to be circled to award the mark provided that the explanation is acceptable.

Do not accept £13.91 with no evidence of rounding.

Page 79-82 – Prime Numbers to 100

1) 17, 37 and 47
All **three** numbers and only these three numbers must be indicated to award the mark.

Accept answers that clearly indicate the three correct numbers in other ways, such as ticking.

2) 3 × 5 × 13 = 195

Accept numbers in any order.

3) **Yes** – Priya is correct.

Accept answers which refer to the fact that **all even numbers** have a **factor of 2**; therefore, all even numbers other than 2 will have **more than 2 factors: 1, 2 and itself.** (If a number has more than 2 factors, it is not a prime number.)

The word 'Yes' does not have to be circled to award the mark provided that the explanation is acceptable.

Do not accept an answer that only gives one example which gives evidence to the statement, e.g. '4 has three factors.'

4) Award **one** mark for a correct explanation of why 69 and 75 are not prime numbers, e.g. '69 is divisible by 3 and 75 is divisible by 5 and/ or 15'

5) Award **two** marks for the answers correctly placed as shown:
Prime and Even = 2
Prime and not even = 29
Not Prime and even = 40
Not Prime and not even = 15

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Award **one** mark for three correctly placed answers.

Page 83-86 – Square and Cube Numbers

1) Accept answers that clearly indicate the two correct numbers of 4 and 25

2) 125 + 64 = 189
Accept $5^3 + 4^3$

Accept answers given in any order.

3) Even and a square number: Accept one of the following: 4, 16, 36, 64

Even and not a square number: Any even number less than 100 excluding square numbers.

Not even and a square number: Accept one of the following: 1, 9, 25, 49, 81

Not even and not a square number: Any odd number less than 100 excluding square numbers.

Award **two** marks for **four** correct answers.

Award **one** mark for any **three** correct answers.

4) 2^2, 2^3, 4^2, 3^3, 9^2

5) a) 13
b) 25
c) 64

Page 87-88 – Addition, Subtraction, Multiplication and Division Mixed Practice

1) a) 187 771
b) 9252

2) 40, 40, 50, 70

3) 0.7 ÷ 10 = 0.07

4) 11 and 123

5) Prime Numbers = 13
Factors of 24 = 4, 6 and 8
Factors of 16 = 4 and 8

Award **two** marks for **all** numbers correctly placed.

Award **one** mark for **three** numbers placed completely correctly.

6) a) Award two marks for the correct answer of £14.80

If the answer is incorrect, award one mark for evidence of an appropriate method which contains no more than one arithmetical error.

2.00 × 5 = 10
2.40 × 2 = 4.8
10 + 4.8 = 14.80

Award one mark for an answer of £1480 or £14.80p as evidence of an appropriate method.

b) £25.20

Do not accept £2520

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Section 3 - Fractions, Decimals and Percentages

Page 91-94 – Simplifying Fractions

1) 2/4, 2/7, 7/9

   Award **two** marks for **three** correct answers.

   Award **one** mark for any **two** correct answers.

2) Award **two** marks for **four** correct matches: 2/3 = 23/18, 1/4 =8/32, 8/9 = 16/18, 4/15 = 12/45

   Award **one** mark for any **two** correct matches.

3) Award **two** marks for all six fractions placed correctly as shown:

   Fractions in their simplest form: 5/8, 17/23, 5/12, 11/30

   Fractions not in their simplest form: 4/20, 7/21

   Award **one** mark for any **four or five** correctly placed fractions.

4) Award **two** marks for simplifying and ordering all the fractions correctly as shown: 1/10, 1/6, 1/5, 1/4, 1/3, 1/2

   If incorrect, award **one** mark for simplifying all the fractions correctly **or** for ordering all the fractions correctly.

5) Accept an explanation and/ or examples that shows that the statement is 'sometimes' true, e.g. 'If both the numerator and denominator are even/ divisible by two they can be halved. This would not work for odd number fractions that are factors of the same number.

Page 95-98 – Converting between Mixed Numbers and Improper Fractions

1) Award **two** marks for **four** correct answers. 4 3/4, 5 5/6, 58/7, 52/9

   Award **one** mark for any **three** correct answers.

2) 12/5 = 2 2/5

3) Award **two** marks for **three** correctly placed digits to make the fractions: 8/3, 3 3/6, 2 4/8

   Award **one** mark for any **two** digits that are correctly placed.

4) Award **two** marks for the **four** correct answers of >, =, <, >

   Award **one** mark for any **three** correct answers.

Page 99-102 – Equivalent Fractions

1) Award one mark for the following two shapes ticked:
   Triangle diagram showing 4/6
   Hexagon diagram showing 8/12

2) Award two marks for two the following correct answers:

   Missing denominator of 4
   Missing numerator of 36

   Award **one** mark for **one** correct answer.

3) **Disagree**: Accept answers that refer to shape A representing 18/24 which can be **simplified** to 6/8 which shape B represents.

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4) a) Award one mark for the following three fractions circled: 13/5, 6/5, 4/2
b) 13/5
c) 10/15 and 2/3

Page 103-106 – Comparing and Ordering Fractions

1) Award **two** marks for **four** correct symbols.
>, <, =, <

Award **one** mark for **three** correct symbols.

2) **Elena has read the most.** Accept answers that refer to 7/9 being 2/72 greater than than 6/8 so Elena has read more than Bartek.

3) Award one mark for the correctly ordered fractions: 3/2, 3/4, 3/6, 3/7, 3/9

4) Award **one** mark for any of the following:
6/14 < 5/10 < 4/7
6/14 < 5/10 < 3/5
6/14 < 4/7 < 3/5
5/10 < 4/7 < 3/5

Accept equivalent fractions ordered correctly,

5) Award **two** marks for all **three** numbers correct, as shown:
Missing numerator of 1
Missing Denominator of 2
Missing denominator of 4

Also accept the digit 3, 2 or 1 as the third missing denominator.

Award **one** mark for any **two** numbers correct.

Page 107-110 – Adding and Subtracting Fractions

1) 2 5/6 km or 17/6 km
Do not accept 2.833km

2) Award two marks for four correct matches:
1/8 + 3/4 = 7/8
2/3 − 1/2 = 1/6
3/5 + 1/4 = 17/20
5/6 − 1/4 = 7/12

Award **one** mark for **two** correct matches.

If any calculation has been matched to more than one fraction, do not accept this as a correct match.

3) a) 23 3/4 and 25/4
b) 16 1/4 and 45/4

4) Award **two** marks for a **fully correct** table:
Incorrect. Correct answer is 1 or 9/9
Correct
Correct
Incorrect. Correct answer is 1/2

Award one mark for correctly identifying all of the correct and incorrect calculations.

Award one mark for two correct answers for the two calculation that were incorrect.

Page 111-114 – Multiplying Fractions

1) a) 5/9 or equivalent
b) 2/3 or equivalent

2) 1/21 m or equivalent
Accept 2/42 m

3) 52

4) Award **two** marks for a **fully correct** calculation:
6/1 × 5/2 = 30/2 = 15 or
5/1 × 6/2 = 30/2 = 15

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Award **one** mark for **both fractions** correct with an incorrect final answer.

5) **No** - Zeke is incorrect.
Accept answers that refer to both calculations equalling 3/8.

Page 115-118 – Dividing Fractions

1) a) 4/15
b) 4

2) 1/7 (also accept equivalent fractions)

Accept answers that refer to Priya's mistake, e.g. Priya has **divided** both the **numerator** and the **denominator** by the **integer**;
6/15 and 2/5 are **equivalent fractions**.

Accept answers that explain how Priya should have solved the calculation correctly, e.g. Priya should have **only** divided the **numerator** by the integer.
6 ÷ 3 = 2 so 6/15 ÷ 3 = 2/15

3) Award one mark for the less than sign <.

4) Award **two** marks for the correct answer of 3/20 or equivalent

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method**.

Page 119-122 – Fractions of Amounts

1) a) 213
b) 640

2) Accept answers that **explain** Felix's mistake, e.g. Felix calculated 4/5 of 80 rather than finding the whole;

To find the whole from a given answer, you must do the **inverse** of finding a fraction of an amount;

Felix has **incorrectly divided by the denominator** then **multiplied by the numerator** to find the fraction of the amount.

Accept answers that **explain** why Hari is **correct**, e.g. 'Hari has **correctly divided by the numerator** then **multiplied by the denominator** to find the whole.'

3) Award **two** marks for the correct answer of 235 bricks.

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error.

4) Award **two** marks for the correct answer of £18
Accept £18.00

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error.

Page 123-126 – Equivalent Fractions, Decimals and Percentages

1) Award **two** marks for **four** ticks correctly placed:
0.3 is greater than 1/4
14% is less than 1/4
4/12 is greater than 1/4
0.21 is less than 1/4

Award **one** mark for **three** correctly placed ticks.

Do not award marks for where both columns have been ticked.

Accept answers that clearly indicate the correct columns in other ways, such as 'yes'.

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2) Accept answers that clearly indicate 8/10 and 4/5

3) Accept answers that show that 0.45 is **less than** 4/5.

4) Award **one** mark for **two** correct symbols
82% > 0.8
0.12 > 12/1000

5) Award **two** marks for four correct answers, as shown:
0.91 = 910/1000
1.168 = 1168/1000
0.104 = 104/1000
0.073 = 73/1000

Award **one mark** for any **three** correct answers.

Page 127-130 – Using Percentages in Problems

1) 264

2) 855

3) Accept answers that recognise that 50% of 25 is **not a whole number**.

4) 105 cupcakes

5) Award two marks for the correct answer of £25
Accept £25.00

Page 131-132 – Fractions, Decimals and Percentages Mixed Practice

1) Award one mark for the correct placement of the fractions:
5/40, 5/20 then 5/8

2) Elias is correct.
Accept answers that refer to Priya incorrectly adding the denominators together when she should have used the lowest common multiple to convert both fractions to the same denominator.

3) a) 4
b) 7/20

4) a) Arithmetic
b) Reasoning Paper 1 and Spelling

5) 30%

Section 4 - Ratio, Proportion and Algebra

Page 135-138 – Ratio

1) Award **two** marks for the correct answer of 45 animals.

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** which contains no more than **one** arithmetical error.

2) 9:4

3) Award **two** marks for the correct answer of 15 questions.

If the answer is **incorrect**, award **one** mark for evidence of an appropriate method which contains no more than one arithmetical error.

4) a) 5:1
b) Award **two** marks for the correct answer of 2028

If the answer is **incorrect**, award **one** mark for answers that identify that Jia will be 16 and her brother will be 6.

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Page 139-142 – Scale Factors

1) Award **two marks** for an **accurate drawing.** The top side should be 10 squares in length.
The vertical sides should be 4 squares in length. The bottom side should be 2 squares in length. The height of the shapes should be 6 squares.

Award **one** mark for any **four** sides correctly enlarged, provided that a ruler has been used and the drawing closely represents the original shape.

Award **one** mark for **all** sides correctly enlarged if a ruler has not been used

2) **No** - Elena is incorrect.

Accept answers that refer to the fact that the lengths of **all sides** of a shape must be multiplied by the scale factor for a proportionately scaled shape, e.g. 'Only the width has been doubled; the length must also be doubled.'
'It should be 8 squares long because 4 × 2 = 8'

The word 'No' does not have to be circled to award the mark provided that the explanation is acceptable.

Do not accept vague or incomplete explanations, e.g. 'It's a square, not a rectangle.'

3) 22m

Page 143-146 – Proportion

1) 45g

2) a) 100g
b) 160g

3) Agree
Accept answers that refer to the fact that Hari can divide the cost of 9 apples by 9 to find the price of 1 apple; then, multiply the cost of 1 apple by 10 to find the price of 10 apples, e.g.
'÷ 10 then × 9'

The word 'Agree' does not have to be circled to award the mark provided that the explanation is acceptable.

Do not accept vague or incomplete explanations, e.g. 'Find the price of 1 apple first.'

Page 147-150 – Substituting and Formulas

1) a) 6
b) 79

2) 103

3) Award one mark for s ÷ 4 ticked.

4) 175 minutes

5) Award **one** mark for d = 5c + 2 ticked.

6) £26
Accept £26.00

Page 151-154 – Solving Equations

1) s = 46

2) l = 8.5cm
Accept 8

3) **Agree**
Accept answers that reference that x = 65 in **both** equations, e.g.
'325 ÷ 5 = 65 **and** 103 − 38 = 65'

The word 'No' does not have to be circled to award the mark provided that the explanation is acceptable.

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Do not accept an answer of 'x = 65' only, without acknowledgement that the value of x is 65 in **both** equations.

4) 14, 15, 16 and 17
Award **two** marks for **four** correct answers and no incorrect answers.

Award **one** mark for:
any **three correct** answers and **no incorrect** answers;
four correct answers and no more than one incorrect answer.

5) Award **two** marks for the correct answer of 12 digits.

If the answer is **incorrect**, award **one** mark for evidence of an **appropriate method** (example below) which contains no more than **one** arithmetical error.

£15 – £5.40 = £9.60
£9.60 ÷ 80p = 12 digits

Page 155-158 – Solving Problems with Two Unknowns

1) Award **two** marks for **five** correct pairs:
95, 105
90, 110
85, 115
80, 120
75, 125

Award **one mark** for **three** or **four** correct pairs.

2) Award **two** marks for **two** correct answers, as shown:
a) circle = 14 b) triangle = 16

Award **one** mark for **one** correct answer.

3) Award **two** marks for **two** correct answers, as shown:
a) pentagon = 26 b) Triangle = 22

4) Award **two** marks for the correct answer of a = 4.5 and b = 3.5

Accept the numbers in fraction form.

Award **one** mark for an answer of a = 3.5 **and** b = 4.5

Award **one** mark for trial and improvement using two attempts, using numbers between 3 and 5, which converge towards or straddle the correct answer.

5) a) £4
Accept £4.00

b) £2.50

Page 159-160 – Ratio, Proportion and Algebra Mixed Practice

1) 16 bananas
Accept 16:12 or 12:16

2) a) 55 minutes
b) 11 questions
c) Award **two** marks for **four** correct pairs:
10, 1
13, 2
16, 3
19, 4

Award **one** mark for **two** or **three** correct pairs.

3) £2
Accept £2.00

4) The third diagram is correct.
Accept answers that refer to:
all measurements/dimensions must be **multiplied** by the scale factor;

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the shape must be enlarged proportionally;
3cm × 1.5 = 4.5cm and 2cm × 1.5 = 3cm
the first shape has only been enlarged horizontally and the second shape has only been enlarged vertically.

The third shape does not have to be circled to award the mark provided that the explanation is acceptable.

Do not accept the third superhero circled without an acceptable explanation.

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