2016 national curriculum tests

Key stage 2

Mathematics test mark schemes

Paper 1: arithmetic
Paper 2: reasoning
Paper 3: reasoning

Standards & Testing Agency

Contents

1. Introduction 3

2. Structure of the key stage 2 mathematics test 3

3. Content domain coverage 3

4. Explanation of the mark schemes 5

5. General marking guidance 5
5.1 Applying the mark schemes 5
5.2 General marking principles 6

6. Marking specific types of question: summary of additional guidance 9
6.1 Answers involving money 9
6.2 Answers involving time 10
6.3 Answers involving measures 11

7. Mark schemes for Paper 1: arithmetic 12

8. Mark schemes for Paper 2: reasoning 17

9. Mark schemes for Paper 3: reasoning 22

1. Introduction

The Standards and Testing Agency (STA) is responsible for the development and delivery of statutory tests and assessments. STA is an executive agency of the Department for Education.

The 2016 test is the first assessment of the 2014 national curriculum. This test has been developed to meet the specification set out in the test framework for mathematics at key stage 2. The test frameworks are on the GOV.UK website at www.gov.uk/sta.

A new test and mark scheme will be developed each year.

The 2016 key stage 2 tests will be marked by external markers.

Scaled score conversion tables are not included in this document. Conversion tables will be produced as part of the standard-setting process. Scaled score conversion tables for the 2016 tests will be published at www.gov.uk/sta in June 2016. The standard-setting process will take place in June 2016.

This mark scheme is provided to show teachers and markers how the tests are marked. The pupil examples are based on answers gathered from the test-trialling process.

2. Structure of the key stage 2 mathematics test

The key stage 2 mathematics test materials comprise:

- Paper 1: arithmetic (40 marks)
- Paper 2: reasoning (35 marks)
- Paper 3: reasoning (35 marks).

3. Content domain coverage

The 2016 test meets the specification set out in the test framework. Table 1 sets out the areas of the content domain that are assessed in the test papers.

The references are taken from the test framework. A question assessing 4C7, for example, sets out to ‘multiply two-digit and three-digit numbers by a one-digit number using a formal written layout’ and is taken from the year 4 programme of study.

Table 1: content domain coverage of the 2016 key stage 2 mathematics test

Paper 1: arithmetic	
Qu.	**Content domain reference**
1	3N2b
2	3C2
3	4C6b
4	3C1
5	3C2
6	3C7
7	5C2
8	3C1
9	3C7
10	4C7
11	3C7
12	5C6a
13	5C6b
14	5F8
15	5C7b
16	5F8
17	5F8
18	5C2
19	6C9
20	6F9a
21	4F8
22	4C6b
23	5C7a
24	4F4
25	6R2
26	6F9b
27	5F4
28	6C7b
29	6R2
30	6C7a
31	6F4
32	6C7b
33	6F5b
34	5F5
35	6F4
36	6C9

Paper 2: reasoning	
Qu.	**Content domain reference**
1a	3N2a
1b	3N2a
2	5N2
3	3C2
4a	4S1
4b	5S1
5	5C5c
6	4G2c
7a	6F2
7b	6F2
8	5F10
9	3M9a
10	3F2
11	5M9c
12a	6A2
12b	6A2
13	6R1
14	6C5
15	5M5
16a	6N2
16b	6N2
17a	6G4b
17b	6G4a
18	6C8
19	6C8
20	6P2

Paper 3: reasoning	
Qu.	**Content domain reference**
1	3C1
2a	6N5
2b	6N5
3	4M4b
4a	6A2
4b	6A2
5	5F8
6	4F10b
7a	4G4
7b	4G4
8	6C8
9a	5S1
9b	5S1
10	5M8
11	6C7a
12	4P2
13	5F10
14a	6M5
14b	6M5
15	5N4
16	6R4
17	6M7b
18	6G2a
19	6N6
20	5F10
21	6C8

4. Explanation of the mark schemes

The marking information for each question is set out in the form of tables (sections 7, 8 and 9).

The purpose of the mark scheme is to define the acceptable answers for each question within the test. Answers other than those listed may be acceptable if they meet the marking criteria.

The '**Qu.**' column on the left-hand side of each table provides a quick reference to the question number and part.

The '**Requirement**' column may include two types of information:

- a statement of the requirements for the award of each mark, with an indication of whether credit can be given for a correct method
- examples of some different types of correct answer.

The '**Mark**' column indicates the total number of marks available for each question part.

The '**Additional guidance**' column indicates alternative acceptable answers and guidance, such as the range of acceptable answers, where necessary. This column may also provide details of specific types of answer which are unacceptable. For most questions, however, there will be unacceptable answers that are not listed.

5. General marking guidance

5.1 Applying the mark schemes

To ensure consistency of marking, the most frequent procedural queries are listed in section 5.2 along with the action the marker will take. This is followed by further guidance on pages 9 to 11 relating to marking questions involving money, time and other measures. Unless otherwise specified in the mark scheme, markers will apply these guidelines in all cases.

Recording marks awarded

Marking will take place on-screen with markers viewing scanned images of pupils' tests. Marks will be entered into the marking system in accordance with the guidance for the on-screen marking software.

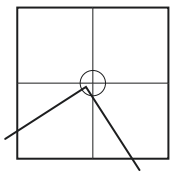
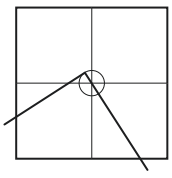
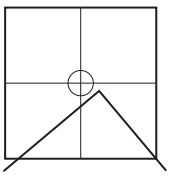
For each question, markers will record the award 3, 2, 1 or 0 as appropriate, according to the mark-scheme criteria. There will be provision in the software to record questions not attempted. The software will aggregate marks automatically.

5.2 General marking principles

Table 2: General marking principles

1. The pupil's answer does not match closely any of the examples given in the mark scheme.	Markers will use their judgement in deciding whether the answer corresponds with details in the 'Requirement' column of the mark scheme. Reference will also be made to the 'Additional guidance' column.
2. The pupil has answered in a non-standard way.	Pupils may provide evidence in any form as long as its meaning can be understood. Diagrams, symbols or words are acceptable for explanations or for indicating an answer.
3. The answer in the answer box is wrong due to a misread of numbers (papers 2 and 3 only).	A misread occurs when a pupil misreads a **number** given in the question and consistently uses a different number that does not alter the original intention or difficulty of the question. For example, if '243' is misread as '248', both numbers may be regarded as comparable in difficulty. However, if '243' is misread as '245' or '240', the misread number may be regarded as making the question easier. The misread of a number may affect the award of marks. Where appropriate, detailed guidance will be given in the mark scheme, which markers will follow. If no guidance is given, markers will examine each case to decide whether the mark(s) will be awarded. **No marks** are awarded if: • it is a **ONE-mark** question • there is more than one misread number in a question • the mathematics is simplified • it is an explanation question • it is a misread of other information (not numbers). For **TWO-mark** questions that have a method mark, **ONE** mark will be awarded if the correct method is correctly followed through with the misread number provided the mathematics has not been simplified. For **THREE-mark** questions, refer to the additional guidance.
4. No answer is given in the expected place, but the correct answer is given elsewhere.	Where a pupil has unambiguously indicated the correct answer, the mark(s) will be awarded. In particular, where a word or number is expected, a pupil may meet the requirement by annotating a graph or labelling a diagram elsewhere in the question.

5. The pupil's answer is correct, but the wrong working is shown.	A correct final answer will be awarded the mark(s).
6. The answer in the answer box is wrong due to a transcription error.	A transcription error occurs when a pupil miscopies the correct answer from the **end of their working** into the answer box. Where appropriate, detailed guidance will be given in the mark scheme, which markers will follow. For questions with no guidance, marks **will not** be awarded for a transcription error unless the following rules apply: • the wrong answer is due to a transcription error; i.e. ▪ the wrong answer is due to transposed digits in a number (e.g. 243 is written as 423); if so, the mark(s) **will** be awarded **OR** ▪ the wrong answer is due to one digit being changed in a number of 4 or more digits (e.g. 2345 is written as 2845); if so, the mark(s) **will** be awarded • the pupil has continued to give redundant extra working which does not contradict the work already done; if so, the mark(s) **will** be awarded • the pupil has continued to give redundant extra working which does contradict work already done; if so, the mark(s) **will not** be awarded.
7. The pupil's answer correctly follows through from earlier incorrect work.	'Follow through' marks for an answer will only be awarded when specifically stated in the mark scheme.
8. The correct answer has been crossed out and not replaced.	No marks will be awarded for crossed-out answers or working.
9. More than one answer is given.	If all answers given are correct (or a range of answers is given, all of which are correct), the mark(s) will be awarded unless the mark scheme states otherwise. If both correct and incorrect answers are given, no mark(s) will be awarded unless the mark scheme states otherwise.

10. The pupil's answer is numerically or algebraically equivalent to the answer in the mark scheme.	Answers should be given as single values in their simplest form unless the mark scheme states otherwise, e.g. for ☐ = 536 – 30, the answer 500 + 6 will not be accepted. Reference will also be made to the 'Additional guidance' column to determine if the mark(s) will be awarded.
11. The pupil has used a symbol as a separator of thousands.	Markers will only accept the use of a comma as a separator of thousands (either correctly or incorrectly placed). If the digits are in the correct order, the mark(s) will be awarded. If any other symbol is used the mark(s) will not be awarded.
12. The correct answer is embedded in the working (papers 2 and 3 only).	An embedded answer occurs when a pupil shows the correct answer within their working but then selects the wrong answer from their working as their final answer or leaves the answer box blank. For example, if a pupil shows '2.5 × 6 = 3 × 5' in the last line of their working and writes 5 in the answer box whereas the correct answer is 3, then this will affect the award of marks. Where appropriate, detailed guidance will be given in the mark scheme, which markers will follow. If no guidance is given, markers will examine each case to decide whether the mark(s) will be awarded. For **ONE-mark** questions, no mark will be awarded. For **TWO-mark** questions that have a method mark, **ONE-mark** will be awarded provided the pupil does not give redundant extra working which contradicts work already done. For **THREE-mark** questions, refer to the additional guidance.
13. The pupil has drawn lines which do not meet at the correct point.	Markers will interpret the phrase 'slight inaccuracies in drawing' to mean 'within or on a circle of radius 2 mm with its centre at the correct point'.  within the circle - accepted  on the circle - accepted  outside the circle - **not** accepted

6. Marking specific types of question: summary of additional guidance

6.1 Answers involving money

	Accept	Do not accept
Where the £ sign is given, e.g. £3.20, £7 £	£3.20 £7 £7.00 Any unambiguous indication of the correct amount, e.g. £3.20p £3 20 pence £3 20 £3-20 £3:20	Incorrect placement of pounds or pence, e.g. £320 £320p Incorrect placement of decimal point or incorrect use or omission of 0 or use of comma as a decimal point, e.g. £3.2 £3 200 £32 0 £3-2-0 £3,20
Where the p sign is given, e.g. 40p p	40p Any unambiguous indication of the correct amount, e.g. £0.40p	Incorrect or ambiguous use of pounds or pence or use of comma as a decimal point, e.g. 0.40p £40p £0,40p

	Accept	Do not accept
Where no sign is given, e.g. £3.20, 40p ☐	£3.20 40p 320p £0.40 Any unambiguous indication of the correct amount, e.g. £3.20p £0.40p £3 20 pence £.40p £3 20 £.40 £3-20 40 £3:20 0.40 3.20 320 3 pounds 20	Incorrect or ambiguous use of pounds or pence or use of comma as a decimal point, e.g. £320 £40 £320p £40p £3.2 0.4 3.20p 0.40p £3,20 0,40p £0,40p

6.2 Answers involving time

	Accept	Do not accept
A time interval, e.g. 2 hours 30 minutes	2 hours 30 minutes Any unambiguous, correct indication, e.g. (0)2h 30 150 minutes (0)2h 30 min 150 (0)2 30 2.5 hours (0)2-30 $2\frac{1}{2}$ hours Digital electronic time, i.e. (0)2:30 (0)2;30	Incorrect or ambiguous time interval or use of comma as a decimal point, e.g. 2.30 2.3 hours 2,30 2.3h 230 2h 3 2.3 2.30 min 2,5 hours

	Accept	Do not accept
A specific time, e.g. 8:40am, 17:20	(0)8:40am (0)8:40 twenty to nine Any unambiguous, correct indication, e.g. (0)8.40 (0)8;40 0840 (0)8 40 (0)8-40 Unambiguous change to 12- or 24-hour clock, e.g. 17:20 as 5:20pm or 17:20pm	Incorrect time, e.g. 8.4am 8.40pm Incorrect placement of separators, spaces, etc. or incorrect use or omission of 0 or use of a comma as a decimal point, e.g. 840 8:4:0 8.4 084 8,40

6.3 Answers involving measures

	Accept	Do not accept
Where units are given, e.g. 8.6kg kg m l	8.6kg Any unambiguous indication of the correct measurement, e.g. 8.60kg 8.6000kg 8kg 600g	Incorrect or ambiguous use of units or use of comma as a decimal point, e.g. 8600kg 8kg 600 8,60kg 8,6000kg

If a pupil gives an answer with a unit different to the unit in the answer box, then their answer must be equivalent to the correct answer provided, unless otherwise indicated in the mark scheme.

If a pupil leaves the answer box empty but writes the answer elsewhere on the page without any units, then that answer is assumed to have the units given in the answer box and the conditions listed above.

7. Mark schemes for Paper 1: arithmetic

Qu.	Requirement	Mark	Additional guidance
1	1,087	1m	
2	350	1m	
3	326	1m	
4	459	1m	
5	1,221	1m	
6	19	1m	
7	97,637	1m	
8	405	1m	
9	24	1m	
10	2,637	1m	
11	568	1m	
12	3,500	1m	
13	41,200	1m	
14	9.125	1m	
15	162	1m	
16	42.294	1m	
17	53.18	1m	
18	110,457	1m	
19	19	1m	
20	0.09	1m	
21	2.85	1m	
22	110	1m	

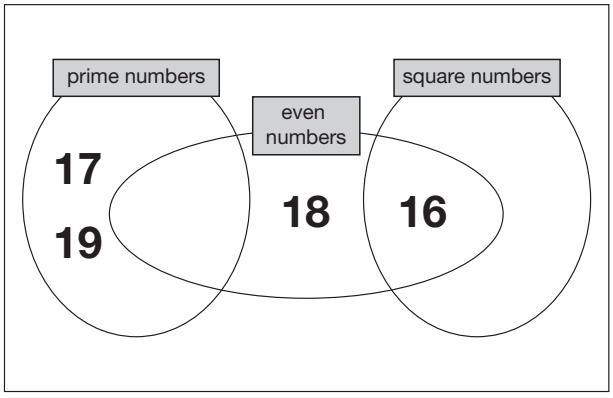
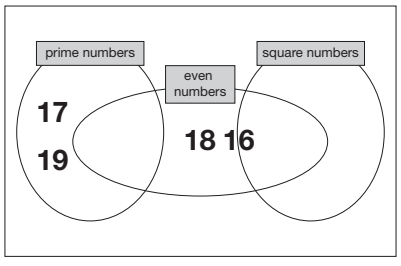
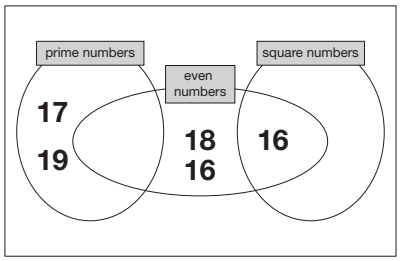
Qu.	Requirement	Mark	Additional guidance
23	Award **TWO** marks for the correct answer of 3,266 If the answer is incorrect, award **ONE** mark for the formal method of long multiplication with no more than **ONE** arithmetical error, e.g. • 71 × 46 = 426 + 2840 = 3260 *(error)* **OR** • 71 × 46 = 426 + 2440 *(error)* = 2866	**Up to 2m**	Working must be carried through to reach a final answer for the award of **ONE** mark. **Do not** award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens: 71 × 46 = 426 + 284 *(place value error)* = 710
24	$1\frac{2}{7}$ **OR** $\frac{9}{7}$	**1m**	Accept equivalent fractions or the **exact** decimal equivalent, e.g. $1.\overline{285714}$ (accept any unambiguous indication of the recurring digits). **Do not** accept rounded or truncated decimals.
25	360	**1m**	**Do not** accept 360%
26	91.5	**1m**	
27	$\frac{1}{4}$	**1m**	Accept equivalent fractions or an **exact** decimal equivalent, e.g. 0.25

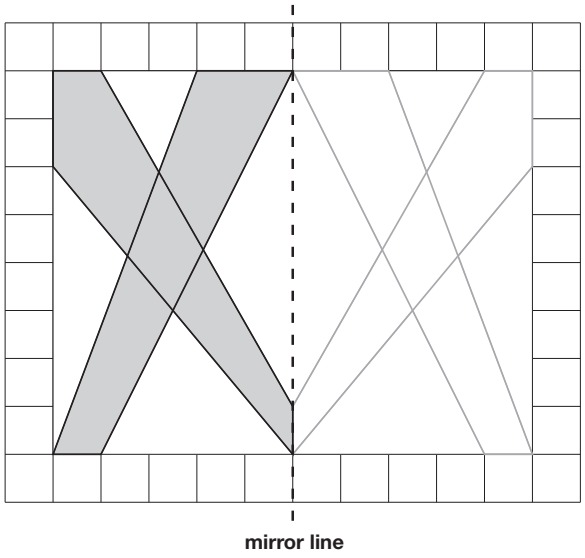
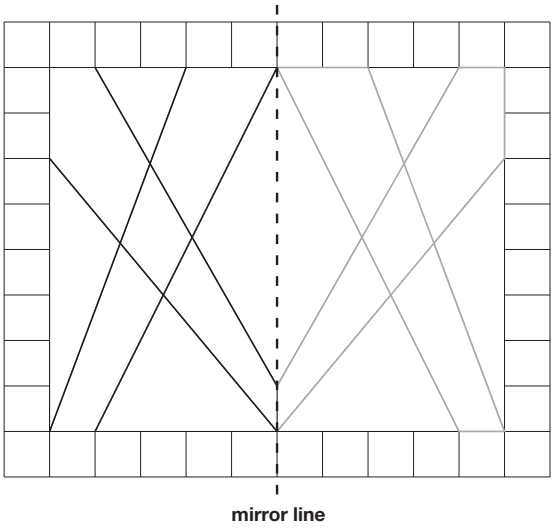
Qu.	Requirement	Mark	Additional guidance
28	Award **TWO** marks for the correct answer of 25 If the answer is incorrect, award **ONE** mark for the formal methods of division with no more than **ONE** arithmetical error, i.e. • long division algorithm, e.g. 25r2 29 ⟌ 725 – 580 (20 × 29) 145 – 116 (4 × 29) 31 (*error*) – 29 (1 × 29) 2 **OR** 24 (*error*) 29 ⟌ 725 – 58 (2 × 29) 145 – 145 (5 × 29) 0 • short division algorithm, e.g. 2 6 (*error*) 29 ⟌ $72^{14}5$	**Up to 2m**	Working must be carried through to reach a final answer for the award of **ONE** mark. Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.
29	66	**1m**	**Do not** accept 66%

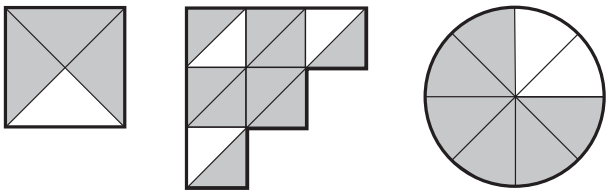
Qu.	Requirement	Mark	Additional guidance
30	Award **TWO** marks for the correct answer of 203,794 If the answer is incorrect, award **ONE** mark for the formal method of long multiplication with no more than **ONE** arithmetical error, e.g. • 6574 × 31 = 6574, 143790 *(error)*, 150364 **OR** • 6574 × 31 = 6574, 197220, 193794 *(error)*	**Up to 2m**	Working must be carried through to reach a final answer for the award of **ONE** mark. **Do not** award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens: 6574 × 31 = 6574, 19722 *(place value error)*, 26296
31	$2\frac{1}{10}$ **OR** $\frac{21}{10}$	**1m**	Accept equivalent fractions or an **exact** decimal equivalent, e.g. 2.1 **Do not** accept $1\frac{11}{10}$

Qu.	Requirement	Mark	Additional guidance
32	Award **TWO** marks for the correct answer of 26 If the answer is incorrect, award **ONE** mark for the formal methods of division with no more than **ONE** arithmetical error, i.e. • long division algorithm, e.g. 28r14 43 | 1118 – 645 (15 x 43) 573 *(error)* – 430 (10 x 43) 143 – 129 (3 x 43) 14 **OR** 25r23 43 | 1118 – 88 *(error)* (2 x 43) 238 – 215 (5 x 43) 23 • short division algorithm, e.g. 2 5 *(error)* 43 | 111 ^{25}8	**Up to 2m**	Working must be carried through to reach a final answer for the award of **ONE** mark. Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.
33	$\frac{1}{5}$	**1m**	Accept equivalent fractions or an **exact** decimal equivalent, e.g. 0.2
34	56	**1m**	
35	$\frac{11}{12}$	**1m**	Accept equivalent fractions or the **exact** decimal equivalent e.g. $0.91\overline{6}$ (accept any unambiguous indication of the recurring digit). **Do not** accept rounded or truncated decimals.
36	53	**1m**	

8. Mark schemes for Paper 2: reasoning

Qu.	Requirement	Mark	Additional guidance
1a	499	1m	
1b	555	1m	
2	Award **ONE** mark for the correct answer as shown: • **E** B C D A	1m	Accept: • £91,500 **B** £130,500 £131,500 £135,300
3	Award **TWO** marks for: 1 5 **1** + 4 **6** 4 **6** 1 5 If the answer is incorrect, award **ONE** mark for two digits correct.	Up to 2m	
4a	191,118	1m	
4b	48,361	1m	
5	Award **TWO** marks for all four numbers placed correctly as shown:  If the answer is incorrect, award **ONE** mark for three numbers placed correctly.	Up to 2m	Accept alternative unambiguous indications, e.g. lines drawn from the numbers to the appropriate regions of the diagram. **Do not** accept numbers written in more than one region, e.g.  **OR** 

Qu.	Requirement	Mark	Additional guidance
6	Diagram completed correctly as shown:  	1m	Accept inaccurate drawing, provided the intention is clear. Diagram need not be shaded. Diagram need not include edges drawn along the gridlines, e.g. 
7a 7b	$\frac{\boxed{2}}{3} = \frac{8}{12} = \frac{4}{\boxed{6}}$	1m 1m	
8	Numbers circled as shown: (0.05) 0.23 (0.2) 0.5	1m	Accept alternative unambiguous positive indications, e.g. numbers ticked or underlined.
9	Award **TWO** marks for the correct answer of 25p If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 168 ÷ 2 = 84 109 – 84 **OR** • 168 ÷ 6 = 28 3 × 28 = 84 109 – 84	Up to 2m	Accept for **TWO** marks, an answer given in the acceptable notation (see page 10 for guidance). Answer need not be obtained for the award of **ONE** mark. Accept for **ONE** mark an answer of 0.25p **OR** £25p **OR** £25 as evidence of an appropriate method.

Qu.	Requirement	Mark	Additional guidance
10	Award **TWO** marks for all three diagrams completed to show three-quarters shaded, e.g.  If the answer is incorrect, award **ONE** mark for two diagrams correct.	**Up to 2m**	Accept alternative unambiguous indications of parts shaded.
11	Award **TWO** marks for the correct answer of 30 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 1.5 kg = 1,500 g 1,500 ÷ 50	**Up to 2m**	Answer need not be obtained for the award of **ONE** mark. Units must be converted correctly for the award of **ONE** mark.
12a 12b	53 48	**1m** **1m**	
13	Award **TWO** marks for the correct answer of 119 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 140 ÷ 20 = 7 3 × 7 = 21 140 – 21 **OR** • 140 ÷ 20 = 7 20 – 3 = 17 17 × 7	**Up to 2m**	Answer need not be obtained for the award of **ONE** mark.

Qu.	Requirement	Mark	Additional guidance
14	24 **AND** 48 only	**1m**	Numbers may be given in either order.
15	Award **TWO** marks for the correct answer of 77 °F If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 86 – 68 = 18 18 ÷ 2 = 9 9 + 68 **OR** • 86 – 68 = 18 18 ÷ 2 = 9 86 – 9 **OR** • 86 + 68 = 154 154 ÷ 2	**Up to 2m**	Answer need not be obtained for the award of **ONE** mark.
16a	9,999,995	**1m**	
16b	5,900,000	**1m**	
17a	160	**1m**	
17b	20	**1m**	If the answers to a and b are incorrect, award **ONE** mark if $a + b = 180°$ unless b is between 33° and 37° inclusive, or 90°
18	20	**1m**	

Qu.	Requirement	Mark	Additional guidance
19	Award **THREE** marks for the correct answer of £111.70 If the answer is incorrect, award **TWO** marks for: • sight of £90 **AND** £7.90 **AND** £13.80 as all multiplication steps completed correctly **OR** • evidence of an appropriate complete method with no more than one arithmetic error, e.g. $\begin{array}{r} 7.50 \\ \times \quad 12 \\ \hline 88.80 \end{array}$ *(error)* $\quad \begin{array}{r} 79 \\ \times \quad 10 \\ \hline 790 \end{array} \quad \begin{array}{r} 6.90 \\ \times \quad 2 \\ \hline 13.80 \end{array}$ 88.80 + 7.90 + 13.80 = 110.50 Award **ONE** mark for evidence of an appropriate complete method.	**Up to 3m**	Accept for **TWO** marks, sight of 9,000p **AND** 790p **AND** 1,380p as all multiplication steps completed correctly. Answer need not be obtained for the award of **ONE** mark. A misread of a number may affect the award of marks. No marks are awarded if there is more than one misread or if the mathematics is simplified. **TWO** marks will be awarded if an appropriate complete method with the misread number is followed through correctly. **ONE** mark will be awarded for: • all multiplication steps completed correctly with the misread number **OR** • evidence of an appropriate complete method with the misread number followed through correctly with no more than one arithmetic error.
20	(–10, –40)	**1m**	

9. Mark schemes for Paper 3: reasoning

Qu.	Requirement	Mark	Additional guidance
1	Award **TWO** marks for numbers in order as shown: **68** 82 96 **110** 124 138 **152** If the answer is incorrect, award **ONE** mark for two numbers correct.	**Up to 2m**	
2a	9	**1m**	**Do not** accept –9 or 9–
2b	–6	**1m**	**Do not** accept 6–
3	Both clocks ticked, as shown: 03:45 ☐ 02:45 ✓ 09:45 ☐ 21:45 ☐ 14:45 ✓	**1m**	Accept alternative unambiguous positive indications, e.g. clocks circled or underlined.
4a	△ = 32	**1m**	
4b	○ = 18	**1m**	If the answers to ○ and △ are incorrect, award **ONE** mark if △ + ○ = 50 unless ○ = 25
5	Numbers in order, as shown: 0.098 0.607 0.78 4.003 5.6	**1m**	

Qu.	Requirement	Mark	Additional guidance
6	Award **TWO** marks for the correct answer of 1.07 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 1.28 + 1.65 = 2.93 4 – 2.93 **OR** • 4 – 1.28 = 2.72 2.72 – 1.65 **OR** • 4 – 1.65 = 2.35 2.35 – 1.28	**Up to 2m**	Accept for **ONE** mark an answer of 107 metres as evidence of an appropriate method. Answer need not be obtained for the award of **ONE** mark.
7a	*c* **AND** *e*	**1m**	Letters may be given in either order.
7b	*a* **AND** *d*	**1m**	Letters may be given in either order.
8	Award **TWO** marks for the correct answer of 35p **OR** £0.35 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 50p + 20p + 10p + 10p + 5p = 95p £2.00 – 95p = £1.05 £1.05 ÷ 3	**Up to 2m**	Accept for **ONE** mark an answer of £35 **OR** £35p **OR** 0.35p as evidence of an appropriate method. Answer need not be obtained for the award of **ONE** mark.
9a	46	**1m**	The answer is a time interval (see page 10 for guidance).
9b	10:44	**1m**	The answer is a specific time (see page 11 for guidance).
10	C	**1m**	Accept 18
11	Award **TWO** marks for the correct answer of 2,970 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method with no more than one arithmetic error, e.g. • 11 × 6 = 66 66 × 45	**Up to 2m**	**Do not** accept sight of a correct multiplication only, e.g. 11 × 6 × 45, for **ONE** mark. Misreads are **not** allowed.

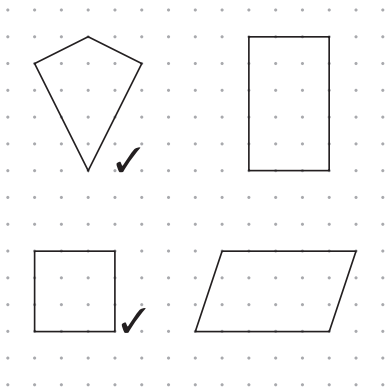
<table>
<tr><th>Qu.</th><th>Requirement</th><th>Mark</th><th>Additional guidance</th></tr>
<tr><td>12</td><td>The triangle has moved [6] squares to the right
and [5] squares down.</td><td>1m</td><td></td></tr>
<tr><td>13</td><td>Award TWO marks for the correct answer of 15

If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.
• 4.5 × 3 = 13.5
13.5 – 6 = 7.5
7.5 × 2</td><td>Up to 2m</td><td>Answer need not be obtained for the award of ONE mark.

Misreads are not allowed.</td></tr>
<tr><td>14a</td><td>3,600</td><td>1m</td><td>Misreads and transcription errors are not allowed.</td></tr>
<tr><td>14b</td><td>1,440</td><td>1m</td><td></td></tr>
<tr><td>15</td><td>Award TWO marks for three boxes completed correctly as shown:
<table><tr><th></th><th>Rounded to nearest hundred</th></tr><tr><td>20,906</td><td>20,900</td></tr><tr><td>2,090.6</td><td>2,100</td></tr><tr><td>209.06</td><td>200</td></tr></table>If the answer is incorrect, award ONE mark for two boxes correct.</td><td>Up to 2m</td><td></td></tr>
<tr><td>16</td><td>Award TWO marks for the correct answer of 3

If the answer is incorrect, award ONE mark for evidence of an appropriate method, e.g.
• 2.5 × 6 = 15
15 ÷ 5</td><td>Up to 2m</td><td>Answer need not be obtained for the award of ONE mark.

Misreads are not allowed.</td></tr>
<tr><td>17</td><td>A</td><td>1m</td><td>Accept alternative unambiguous positive indications of the correct triangle, e.g. $2\frac{1}{2}$ or 2.5</td></tr>
</table>

Qu.	Requirement	Mark	Additional guidance
18	Award **TWO** marks for both kite **AND** square ticked as shown.  If the answer is incorrect, award **ONE** mark for: • kite **AND** square and not more than one incorrect shape ticked **OR** • one correct shape only ticked.	**Up to 2m**	Accept alternative unambiguous positive indications, e.g. shapes circled.
19	Numbers circled as shown: **200** 2,000 **5,000** 50,000	**1m**	Accept alternative unambiguous positive indications, e.g. numbers ticked or underlined.
20	Award **TWO** marks for the correct answer of £11.40 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • £1.25 + £1.60 = £2.85 £2.85 × 4	**Up to 2m**	Accept for **ONE** mark an answer of £1,140 **OR** £1,140p **OR** £11.4 as evidence of an appropriate method. Answer need not be obtained for the award of **ONE** mark.
21	An explanation that shows that 5,868 can be made by adding 326 to 17 × 326, e.g. • '5542 + 326 = 18 × 326' • '18 × 326 is 326 more than 5,542' • 'Because this is the same as 17 × 326 = 5542 so add one more 326 to get the answer' • 'You add 326 to 5,542 and your answer will be correct' • 'Because you can add 326 to the answer of 17 × 326' • '5542 + 326'.	**1m**	**Do not** accept an explanation that simply calculates 326 × 18 = 5,868 **Do not** accept vague or incomplete, or incorrect explanations, e.g. • 'You could add another 326' • 'The difference between 17 and 18 is 1 so you add 326 and that is one more' • 'Because if you turn the question around you would see that 17 × 326 = 5542 so all you need to do is times the number one more time' • '5,542 + 326 because it is one more'. • 5868 – 326 = 5542

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Standards & Testing Agency

2016 key stage 2 mathematics test mark schemes
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