Lancashire Curriculum Tests

Year 4 – End of Summer Term

(Meeting end of year expectations)

Mathematics test administration guide and mark schemes

Paper 1: arithmetic

Paper 2: reasoning

Lancashire County Council

Administration guide

Format	• This test consists of two papers, an arithmetic paper and a reasoning paper. • The arithmetic paper will take approximately 40 minutes and the reasoning paper will take approximately 40 minutes to complete. • It is at your discretion to choose when or if pupil(s) require a break during each test or whether, if appropriate, to stop the test early. • The test may be administered as a class or in groups, whichever is deemed most suitable. The assistance guidance should be followed in either situation.
Equipment	Each pupil will need the equipment specified below: • a pencil • a ruler (showing centimetres and millimetres) • a rubber (optional). If rubbers are not provided, you should tell pupils that they may cross out any answers they wish to change • a mirror (reasoning paper only) Pupils are **not** allowed to use calculators in the test.
Assistance	• You must ensure that nothing you say or do during a test could be interpreted as giving pupils an advantage, e.g. indicating that an answer is correct or incorrect, or suggesting the pupil looks at an answer again. • If a pupil requests it, a question may be read to them on a one-to-one basis. However, adults can only read numbers and not mathematical symbols. This is to ensure that pupils are not given an unfair advantage by having the function inadvertently explained by reading its name.

General marking principles

The marking guidance within these tests directly reflects the guidance for the national end of key stage tests.

1. The pupil's answer does not match closely any of the examples given in the mark scheme.	Use your 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 (paper 2 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. If no guidance is given, 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. 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 $\square$ = 536 − 30, the answer 500 + 6 will not be accepted. Refer 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.	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 (paper 2 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 x 6 = 3 x 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. If no guidance is given, 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.	'Slight inaccuracies in drawing' means within or on a circle of radius 2 mm with its centre at the correct point.

Marking specific types of question:
summary of additional guidance

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
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

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
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

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.

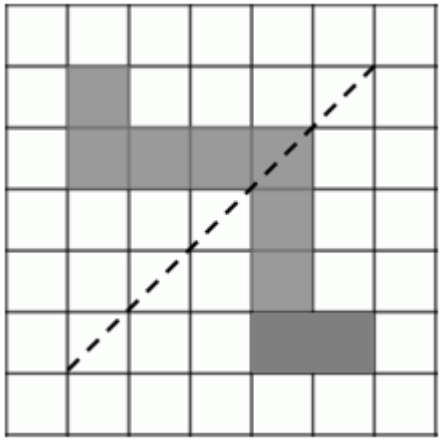
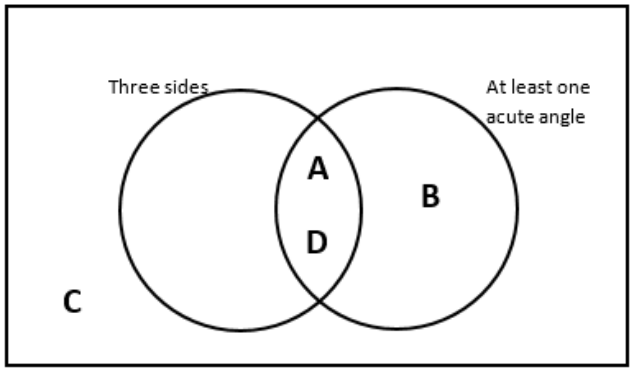
Mark schemes for Paper 1: arithmetic

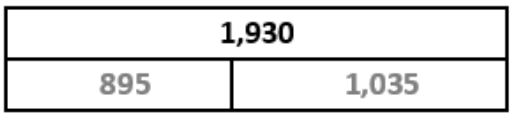
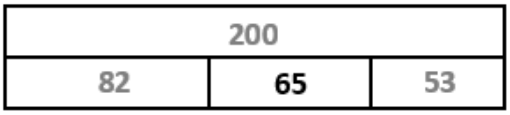
Qu.	Requirement	Mark	Additional guidance
1	**4,382**	1m	
2	**0.52**	1m	
3	**48**	1m	
4	**48**	1m	
5	**2.9**	1m	
6	**73 or $\frac{73}{100}$**	1m	
7	**250**	1m	
8	**6.9**	1m	
9	**4,450**	1m	
10	**0**	1m	
11	**4 or $\frac{4}{5}$**	1m	
12	**-2**	1m	
13	**235**	1m	
14	**4 or 9r4 or $\frac{4}{7}$**	1m	
15	**9**	1m	
16	**6**	1m	
17	**10**	1m	
18	**2.4**	1m	
19	Award **TWO marks** for the correct answer of **5,778** If the answer is incorrect, award **ONE mark** for the formal method of columnar addition with no more than **ONE** arithmetic error, i.e. 5047 78 + 653 error not including 5768 the 'carried' 10 1 1	up to 2m	Working must be carried through to reach a final answer for the award of **ONE mark**. **No marks** for: 5047 78 + 653 correctly calculating in each column but 'carrying' 5121 the wrong digit each time is a place value error. 4 8
20	Award **TWO marks** for the correct answer of **2,502** If the answer is incorrect, award **ONE mark** for the formal method of columnar subtraction with no more than **ONE** arithmetic error, i.e. 4 1 5047 - 2545 error 4,000 - 2,000 3502	up to 2m	Working must be carried through to reach a final answer for the award of **ONE mark**. **No marks** for: 5047 - 2545 not recognising the need to exchange between 3502 columns

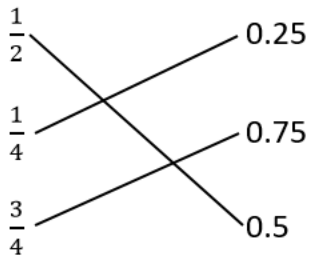
21	**1,800**	**1m**	
22	**27**	**1m**	
23	**16**	**1m**	Also accept an answer which indicates use of brackets: **8 x (4 + 2)** **2** (where brackets have been inserted into given calculation or shown in working.)
24	**910**	**1m**	
25	**57**	**1m**	
26	**4 $\frac{4}{7}$ or $\frac{32}{7}$**	**1m**	
27	Award **TWO marks** for the correct answer of **47.5** If the answer is incorrect, award **ONE mark** for the formal method of columnar subtraction with no more than **ONE** arithmetic error, i.e. 6 15 1 ~~7~~ ~~6~~.4 - 28.9 error 14 – 9 = 6 47.6 Award **ONE mark** for one correct exchange between columns and no arithmetic errors.	**up to 2m**	Working must be carried through to reach a final answer for the award of **ONE mark**. **No marks** for: 76.4 - 28.9 not recognising the need to exchange between 52.5 columns
28	Award **TWO marks** for the correct answer of **137.2** If the answer is incorrect, award **ONE mark** for the formal method of columnar addition with no more than **ONE** arithmetic error, i.e. 57.8 + 79.4 error not including 127.2 the 'carried' 10 1 1	**up to 2m**	Working must be carried through to reach a final answer for the award of **ONE mark**. **No marks** for: 57.8 + 79.4 correctly calculating 0.8+0.4 = 1.2, then 'carrying' 138.1 the 0.2 instead of the 1 1 2
29	**7.7**	**1m**	
30	**4 or $\frac{1}{4}$**	**1m**	
31	**8,350**	**1m**	

35 marks in total

Mark schemes for Paper 2: reasoning

Qu.	Requirement	Mark	Additional guidance
1	**11cm²**	1m	
2	**4,990**	1m	
3	**6,500**	1m	
4		1m	
5	Award **TWO marks** for all three numbers correctly identified as: $1\frac{1}{2}$ 3 6 12 24 48 **OR** 3 3 6 12 21 33 Award **ONE mark** for any two numbers correctly identified.	up to 2m	Accept 1.5 in the first box of the first sequence.
6	**£10.50**	1m	The answer is an amount of money – see earlier guidance
7		1m	**All** letters correct for the award of **ONE mark**
8a	**Accept answers between 3,000 and 4,000 inclusive**	1m	
8b	**1980 and 1990**	1m	
9	**96**	1m	

10	$\frac{24}{100}$ or any equivalent such as $\frac{12}{50}$ or $\frac{6}{25}$	**1m**	
11	Award **TWO marks** for the correct answer explaining that **Ben** goes for 10 minutes longer than Sara **OR** for evidence of comparing both sets of times, e.g. 'Ben went for 15 minutes longer in the morning, and Sara went for 5 minutes longer in the afternoon. So Ben went for longer.' **OR** Ben circled **AND** sight of 3hrs 45mins (225 minutes) for Sara **AND** 3hrs 55mins (235 minutes) for Ben. Award **ONE mark** for: - sight of 1hr 30mins (90 minutes) **AND** 2hrs 15mins (135 minutes) for Sara **AND** 1hr 45mins (105 minutes) **AND** 2hrs 10mins (130 minutes) for Ben **OR** - sight of 3hrs 45mins (225 minutes) for Sara **AND** 3hrs 55mins (235 minutes) for Ben **AND** Sara circled (which is incorrect)	**up to 2m**	**Do not** award any marks if just Ben is circled and there is no mathematical explanation.
12	63 ÷ 9 = 28 ÷ 4	**1m**	
13a		**1m**	
13b		**1m**	
14a	**60cm**	**1m**	
14b	$\frac{1}{2}$ or any equivalent fraction such as $\frac{6}{12}$	**1m**	
15	Award **TWO marks** for the correct answer of **43** If the answer is incorrect, award **ONE mark** for sight of **43r3** or evidence of a correct method for 175 ÷ 4 = answer with no more than one arithmetic error	**up to 2m**	**Do not** award the mark for an answer of 44
16	**6,012**	**1m**	
17		**1m**	**Both** numbers must be correct for the award of **ONE mark**

18		**1m**	**All three** correct for the award of **ONE mark**
19a **19b**	**(6, 2)** (6, 0) (3, 0) (2, 3) ☐ (8, 2) (8, 4) (6, 4) ☐ (6, 7) (5, 7) (5, 2) ☑	**1m** **1m**	**Accept 6, 2** Do **NOT** accept the option of (8,2), (8,4) and (6,4) ticked as this creates a square and the question specifies **oblong** rather than **rectangle**.
20	14:20 15:20 (16:20) 17:20	**1m**	Accept other unambiguous indications such as the correct time ticked
21	Award **TWO marks** for the correct answer of 8**cm**. If the answer is incorrect, award **ONE mark** for evidence of a correct method with no more than one arithmetic error e.g. 12.5 + 12.5 + 8 + 8 = a (or equivalent calculation using multiplication) 12.5 + 12.5 + 4 + 4 = b (or equivalent calculation using multiplication) a – b = incorrect answer **OR** Award one mark for clear indication that the diagram on the left is 4cm taller than the one on the right so the difference between them is 8 - 4 multiplied by 2.	**up to 2m**	
22	**LXXX**	**1m**	
23	**3.24**	**1m**	
24	432 + 190 = 622	**1m**	**Both numbers** must be correct for the award of **ONE mark**
25	$\frac{6}{7}$	**1m**	Award the mark even if the fraction strips have not been used.

26	Award **TWO marks** for any three calculations from: 500 + 500 + 500 500 + 500 + 250 500 + 500 + 125 500 + 500 + 75 500 + 500 + 50 500 + 250 + 250 500 + 250 + 125 Award **ONE mark** for any two correct calculations.	**up to 2m**	Accept numbers in a different order to those given.

35 marks in total