SCHOLASTIC

YEAR 3
MATHEMATICS
Termly Assessment Tests

Guidance and mark schemes

SCHOLASTIC

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Guidance and mark schemes for mathematics: Year 3

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About this pack

This pack provides you with termly assessment tests to help support children with end-of-year tests and to assess which skills need further development. The pack consists of this introductory booklet (including mark schemes) and assessments tests that cover a wide range of content taken from the Key Stage 2 programme of study.

Using the termly assessment tests

The tests in this pack can be used as you would any other assessment materials. The children need to be familiar with specific test-focused skills, such as ensuring equipment functions properly, leaving questions if they seem too difficult, working at a suitable pace for the tests and checking through their work.

These tests are short at only 30 or 40 minutes per paper, as they are testing the degree of competence children have.

About the tests

Each maths test has three papers:

- Paper 1: arithmetic – these are context-free calculations. The children have 30 minutes to answer the questions. 40 marks are available.
- Paper 2 and Paper 3: reasoning – these are mathematical reasoning problems both in context and out of context. The children have 40 minutes per paper to answer the questions. 35 marks are available per paper.

The papers should be taken in order and children may have a break between papers. All of the tests broadly increase in difficulty as they progress, and it is not expected that all children will be able to answer all of the questions.

The marks available for each question are shown in the answer booklet next to each question and are also shown next to each answer in the mark scheme.

Test coverage

The test content is divided into strands and sub-strands. These are listed, for each question, in a table on the back cover of every test to allow tracking of difficulties. In a small number of cases, where practical equipment such as containers would be required, these aspects are not tested.

Strand	Sub-strand
Number and place value	counting (in multiples)
	read, write, order and compare numbers
	place value; Roman numerals
	identify, represent and estimate; rounding
	number problems
Addition, subtraction, multiplication and division (calculations)	add/subtract mentally
	add/subtract using written methods
	estimates, use inverses and check
	add/subtract to solve problems
	multiply/divide mentally
	multiply/divide using written methods
	solve problems (commutative, associative, distributive and all four operations)
Fractions	recognise, find, write, name and count fractions
	equivalent fractions
	comparing and ordering fractions
	add/subtract fractions
	solve problems with fractions and decimals
Measurement	compare, describe and order measures
	estimate, measure and read scales
	money
	telling time, ordering time, duration and units of time
	solve problems (money; length; mass/weight; capacity/volume)
Geometry – properties of shape	recognise and name common shapes
	describe properties and classify shapes
	draw and make shapes and relate 2D and 3D shapes (including nets)
	angles – measuring and properties
Geometry – position and direction	patterns
Statistics	interpret and represent data
	solve problems involving data

Marking and assessing the papers

The mark schemes and answers are located towards the end of this booklet.

The mark schemes provide details of correct answers including guidance for questions that have more than one mark.

Interpreting answers

The guidance below should be followed when deciding whether an answer is acceptable or not. As general guidance, answers should be unambiguous.

Problem	Guidance
The answer is equivalent to the one in the mark scheme.	The mark scheme will generally specify which equivalent responses are allowed. If this is not the case, award the mark unless the mark scheme states otherwise. For example: 1 ½ or 1.5
The answer is correct but the wrong working is shown.	A correct response will always be marked as correct.
The correct response has been crossed (or rubbed) out and not replaced.	Do not award the mark(s) for legible crossed-out answers that have not been replaced or that have been replaced by a further incorrect attempt.
The answer has been worked out correctly but an incorrect answer has been written in the answer box.	Where appropriate follow the guidance in the mark scheme. If no guidance is given then: ● award the mark if the incorrect answer is due to a transcription error ● award the mark if there is extra unnecessary workings which do not contradict work already done ● do not award the mark if there is extra unnecessary workings which do contradict work already done.
More than one answer is given.	If all answers are correct (or a range of answers is given, all of which are correct), the mark will be awarded unless specified otherwise by the mark schemes. If both correct and incorrect responses are given, no mark will be awarded.

Problem	Guidance
There appears to be a misread of numbers affecting the working.	In general, the mark should not be awarded. However, in two-mark questions that have a working mark, award one mark if the working is applied correctly using the misread numbers, provided that the misread numbers are comparable in difficulty to the original numbers. For example, if '243' is misread as '234', both numbers may be regarded as comparable in difficulty.
No answer is given in the expected place, but the correct answer is given elsewhere.	Where an understanding of the question has been shown, award the mark. In particular, where a word or number response is expected, a pupil may meet the requirement by annotating a graph or labelling a diagram elsewhere in the question.

Formal written methods

The following guidance shows examples of formal written methods suitable for Year 3. These methods may not be used in all schools and any formal written method, which is the preferred method of the school and which gives the correct answer, should be acceptable.

Addition

64 + 25 becomes

	6	0	+	4
+	2	0	+	5
	8	0	+	9

Answer: 89

57 + 29 becomes

	5	0	+		7
+	2	0	+		9
	7	0	+	1	6

Answer: 86

or

	5	7	
+	2	9	
	8	6	
	1		

Answer: 86

135 + 287 becomes

	1	0	0	+		3	0	+		5
+	2	0	0	+		8	0	+		7
	3	0	0	+	1	1	0	+	1	2
	4	1	0					+	1	2

Answer: 422

or

	1	3	5	
+	2	8	7	
	4	2	2	
	1	1		

Answer: 422

Subtraction

94 − 33 becomes

	9	0	and		4
−	3	0	and		3
	6	0	and		1

Answer: 61

or

	9	4	
−	3	3	
	6	1	

Answer: 61

85 − 37 becomes

	8	0	and		5	
−	3	0	and		7	
	7	0	and	1	5	
	3	0	and		7	
	4	0	and		8	

Answer: 48

or

	~~8~~ 70	0	and	1	5
−	3	0	and		7
	4	0	and		8

Answer: 48

341 − 196 becomes

	3	0	0	and		4	0	and		1	
−	1	0	0	and		9	0	and		6	
	2	0	0	and	1	3	0	and	1	1	
	1	0	0	and		9	0	and		6	
	1	0	0	and		4	0	and		5	

Answer: 145

or

	~~2~~	~~13~~	~~4~~	1
−	1	9	6	
	1	4	5	

Answer: 145

Multiplication

16 × 4 becomes

(10 × 4) + (6 × 4)

= 40 + 24

Answer: 64

or

×	4
10	40
6	24
Total	**64**

Answer: 64

or

$$\begin{array}{r} 16 \\ \times\ \ 4 \\ \hline 40 \\ 24 \\ \hline 64 \\ \hline \end{array}$$

Answer: 64

Division

64 ÷ 4 becomes

(40 ÷ 4) + (24 ÷ 4)

= 10 + 6

Answer: 16

or

$$\begin{array}{r} 64 \\ -\ 40 \\ \hline 24 \\ -\ 24 \\ \hline 0 \\ \hline \end{array} \qquad \begin{array}{r} 10 \times 4 \\ \hline \\ 6 \times 4 \\ \hline 16 \\ \hline \end{array}$$

Answer: 16

National standard in maths

The mark that each child gets in the test paper will be known as the 'raw score' (for example, '50' in 50/110). The raw score will be converted to a scaled score and children achieving a scaled score of 100 or more will achieve the National Standard in that subject. These 'scaled scores' enable results to be reported consistently year-on-year.

The guidance in the table below shows the marks that children need to achieve to reach the National Standard. This should be treated as a guide only, as the number of marks may vary. You can also find up-to-date information about scaled scores on our website: www.scholastic.co.uk/nationaltests

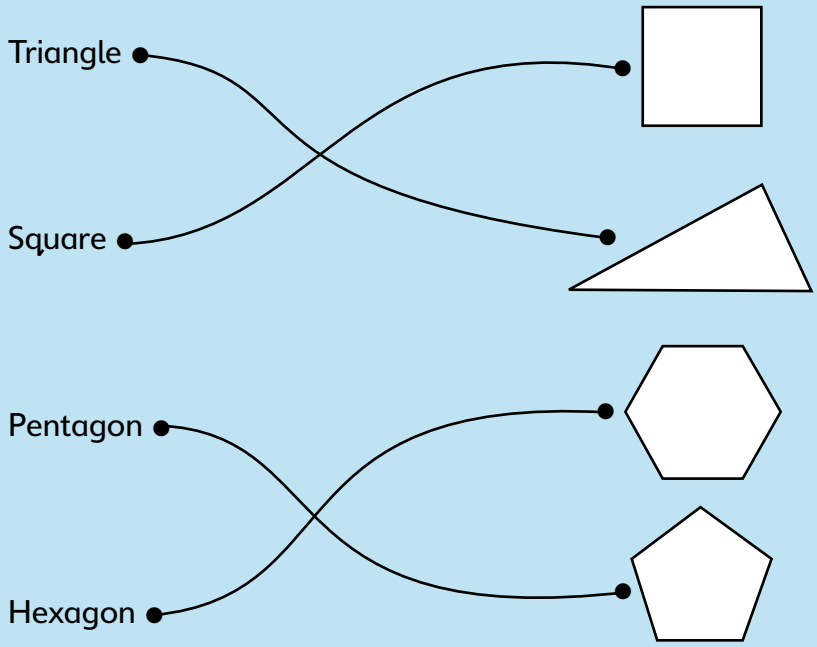
Marks achieved	Standard
0–57	Has not met the national standard in mathematics for Year 3
58–110	Has met the national standard in mathematics for Year 3

Mark scheme Test A: Paper 1

Q	Answers	Marks
1	8	1
2	7	1
3	15	1
4	150	1
5	25	1
6	$\frac{2}{10}$	1
7	80	1
8	4	1
9	28	1
10	120	1
11	$\frac{5}{7}$	1
12	200	1
13	530	1
14	5	1
15	116	1
16	33	1
17	506	1
18	216 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
19	200	1
20	0	1
21	47	1
22	521	1
23	25	1
24	155	1
25	$\frac{4}{12}$	1
26	963	1
27	144 Award 1 mark for a correct demonstration of an appropriate written method for long multiplication but with one arithmetic error.	2
28	245	1

Q	Answers	Marks
29	51 Award 1 mark for a correct demonstration of an appropriate written method for short division but with one arithmetic error.	2
30	900	1
31	1049 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
32	247	1
33	3	1
34	28	1
35	36	1
36	260	1
	Total	**40**

Mark scheme Test A: Paper 2

Q	Answers	Marks
1	$\frac{1}{2}$	1
2		1
3	70	1
4	14	1
5	700g	1
6	420	1
7	Two lines perpendicular to each other - they should cross each other at right angles.	1
8	36cm	1
9	21 days	1
10	24 Award 1 mark for an incorrect answer but with an attempt to multiply or list all possible combinations.	2
11	8 6	1 1
12	£256 phone circled £100	1 1

Q	Answers	Marks
13	A 4mm	1 1
14	Triangular prism Cube	1 1
15	838 buttons Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method.	2
16	327 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
17	18 Award 1 mark for a correct demonstration of an appropriate written method for short division but with one arithmetic error.	2
18	One wheel/circle drawn for buses Scooter	1 1
19	$\frac{5}{12}$ Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method for adding/subtracting fractions.	2
20	865 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for addition.	2
21	£2.73 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
22	£2 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
	Total	**35**

Mark scheme Test A: Paper 3

Q	Answers	Marks
1		1
2	4	1
3	800, 900, 1000	1
4	9 7 1 − **4 6** 3 5 0 8	1
5	9:54pm	1
6	28kg	1
7	3 6 21 4	1
8	d	1
9	120	1
10	620. Accept final answer in words. Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for addition.	2
11	B 150ml	1 1
12	55 children Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
13	$\frac{3}{12}$ Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for subtracting fractions.	2

Q	Answers	Marks
14	£13 £78	1 1
15	16p Award 1 mark for a correct demonstration of an appropriate written method for multiplication but with one arithmetic error.	2
16	A reasonably accurate drawing of an isosceles triangle with one right angle and two sides of 7cm. Award 1 mark for a right-angled triangle but sides not of the correct length.	2
17	51, 55, 59, 63 51, 47, 43, 39	1 1
18	$\frac{2}{9}$ Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for adding/subtracting fractions.	2
19	559 litres Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for subtraction.	2
20	789kg Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
21	102cm Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
22	144 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
	Total	**35**

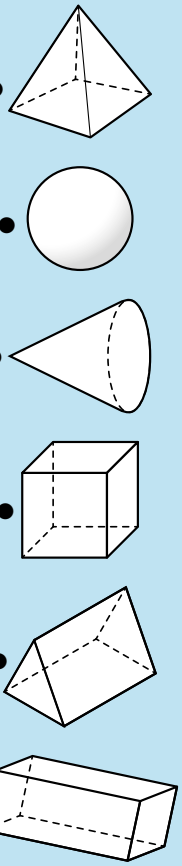
Mark scheme Test B: Paper 1

Q	Answers	Marks
1	25	1
2	16	1
3	18	1
4	15	1
5	800	1
6	11	1
7	$\frac{4}{5}$	1
8	45	1
9	72	1
10	66	1
11	17	1
12	15	1
13	380	1
14	291	1
15	9	1
16	196	1
17	$\frac{3}{6}$	1
18	455	1
19	$\frac{7}{8}$	1
20	600	1
21	193	1
22	550	1
23	579	1
24	8	1
25	88 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
26	660	1
27	7	1

Q	Answers	Marks
28	841 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
29	888	1
30	350	1
31	584 Award 1 mark for a correct demonstration of an appropriate method for long multiplication but with one arithmetic error.	2
32	100	1
33	$\frac{2}{9}$	1
34	147 Award 1 mark for a correct demonstration of an appropriate written method for short division but with one arithmetic error.	2
35	670	1
36	18	1
	Total	**40**

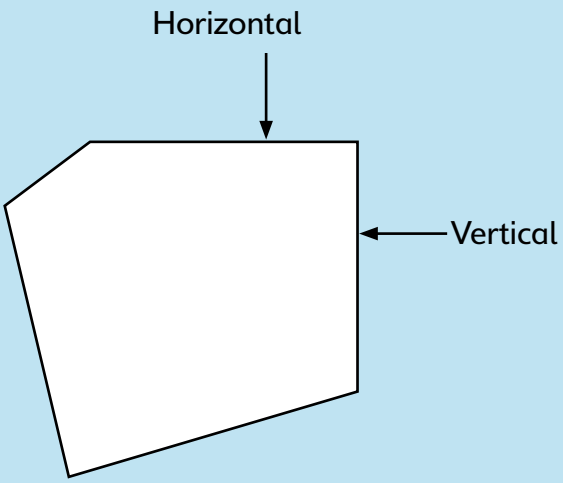
Mark scheme Test B: Paper 2

Q	Answers	Marks
1	40, 45, 50	1
2	Award 1 mark for five beads clearly marked off with a continuous, or near-continuous line.	1
3	$\begin{array}{r} 640 \\ +187 \\ \hline 827 \end{array}$	1
4	Accept 20 to three, 2.40pm, 14.40 or 14.40pm	1
5	$\frac{1}{3}$	1
6	11cm 9mm accept 119mm	1
7	b	1
8	669 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method.	2
9	144 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for subtraction.	2
10	< > Both answers need to be correct to reward the mark.	1
11	77 raisins Award 1 mark for correct approach to written subtraction but with one arithmetic error.	2
12	$\frac{1}{8}, \frac{3}{8}, \frac{6}{8}, \frac{7}{8}$	1
13	18 Oranges	1 1
14	Gemma 2 minutes	1 1

Q	Answers	Marks
15	Has six square faces Has twelve edges and six rectangular faces Four of its faces meet at a vertex Has one curved face Has a circle for its base Has two triangular faces and three rectangular faces  Award 1 mark if at least three are correct.	2
16	Charlie Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
17	6 chocolates Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method. Also award 1 mark if $\frac{3}{8}$ is given.	2
18	14g sugar 42g flour 28g butter Award 1 mark for two out of three correct.	2
19	473 cars Award 1 mark for correct approach to solving the problem but with one arithmetic error.	2
20	60cm Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2

Q	Answers	Marks
21	86p Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
22	9°C	1
	6°C	1
	Total	**35**

Mark scheme Test B: Paper 3

Q	Answers	Marks
1	C	1
2	1	1
3	1 litre or 1000ml	1
4	56	1
5	40m	1
6	9	1
7	52p	1
8	396	1
9	Yes. 219 − 151 = 68 or 219 − 68 = 151	1
10	$\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{5}{10}$, $\frac{9}{10}$	1
11	$\begin{array}{r} 187 \\ +\ 45 \\ \hline 231 \end{array}$	1
12		2
13	578 340, 440	1 1
14	9 Award one mark for a correct written method with one arithmetic error.	2
15	A 6cm 4mm B 9cm 8mm	1 1
16	278 Accept answer in words if calculation has been done correctly. Award one mark for a correct written method with one arithmetic error.	2

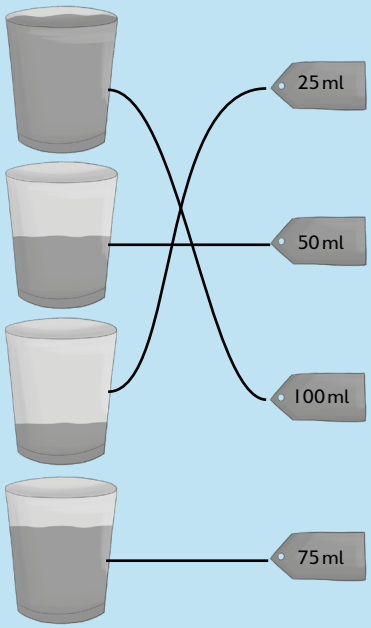
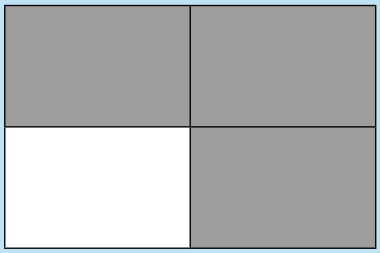
Q	Answers	Marks
17	$\frac{3}{5}$ Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
18	a c	1 1
19	216 Award 1 mark for a correct demonstration of an appropriate written method for multiplication but with one arithmetic error.	2
20	430 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for addition.	2
21	$\frac{1}{10}$ Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method for adding/subtracting fractions.	2
22	140 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
23	95 litres Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate written method for addition.	2
	Total	**35**

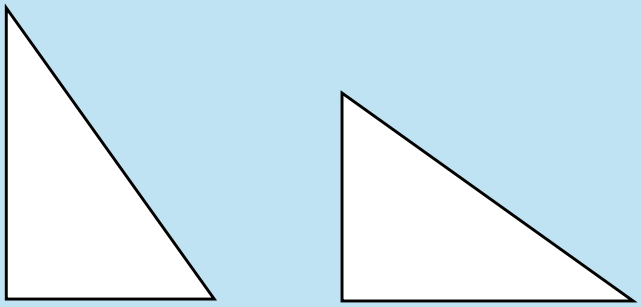
Mark scheme Test C: Paper 1

Q	Answers	Marks
1	15	1
2	5	1
3	32	1
4	24	1
5	93	1
6	20	1
7	44	1
8	200	1
9	15	1
10	$\frac{5}{6}$	1
11	9	1
12	200	1
13	46	1
14	102	1
15	$\frac{1}{4}$	1
16	64	1
17	37	1
18	955	1
19	22	1
20	320	1
21	317 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
22	12	1
23	$\frac{2}{8}$ or $\frac{1}{4}$	1
24	900	1
25	50	1
26	618 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2

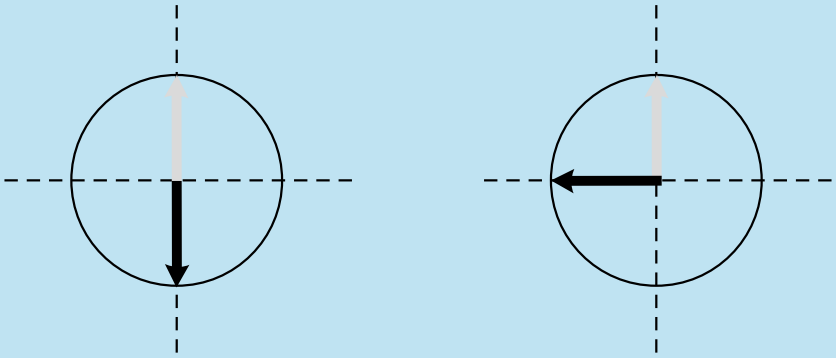
Q	Answers	Marks
27	750	1
28	199	1
29	250	1
30	$\frac{7}{12}$	1
31	615 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
32	738	1
33	400	1
34	32	1
35	174 Award 1 mark for an incorrect answer but with a correct demonstration of an appropriate method.	2
36	60	1
	Total	**40**

Mark scheme Test C: Paper 2

Q	Answers	Marks
1	71 seventy-one	1
2		1
3	 $\frac{3}{4}$  $\frac{2}{4}$	1
4	Perimeter = 30cm	1
5	$\begin{array}{r} 3\,\mathbf{8} \\ +\,\mathbf{2}\,4 \\ \hline 6\,2 \end{array}$	1
6	550ml Award one mark for clear understanding of procedure and capacity.	2
7	400 (accept answer in words) 743 (accept answer in words)	1 1
8	3 more 6 fewer	1 1
9	The clock on the right-hand-side should be circled. (The other clocks show 20 past 5 and 17 past 4.) 37 minutes.	1 1
10	$\frac{3}{6} < \frac{5}{6}$, $\frac{2}{4} = \frac{1}{2}$, $\frac{6}{9} > \frac{4}{9}$	1
11	32, 36, 40 44, **48**, **52**, 56	1

Q	Answers	Marks
12	$\begin{array}{r} 5\,\mathbf{3} \\ \times \quad 4 \\ \hline \mathbf{2}\,1\,2 \end{array}$ $4\overline{)\mathbf{4}\,8}$ **12**	1 1
13	Equilateral triangle	1
14	64 pupils Sherbaton: 290 pupils Twindle: 286 pupils (only award mark if both are correct)	1 1
15	£3.30 £1.70 £16.50	1 1 1
16	$\frac{5}{12}$	1
17	Award 1 mark for a correct subtraction showing 793 − 437 = 356, or 793 − 358 = 435. There must be evidence of correct written method. No, Gina is not correct (only award mark if both are correct).	1 1
18	 Award one mark only if the right-angle is accurate, and the perpendicular sides are 5cm and 7cm, accurate to one millimetre.	1
19	16 pieces each, 2 pieces left over. Award 1 mark for evidence of correct written method.	2
20	Burger	1
21	54 people Award 1 mark for correct evidence of written methods but an incorrect answer.	3
22	71 pencils Award 1 mark for correct written method for multiplication.	2
	Total	**35**

Mark scheme Test C: Paper 3

Q	Answers	Marks
1	109cm, 116cm, 119cm, 123cm, 129cm 119cm	1 1
2	Any two segments of the shape can be shaded.	1
3	Circle, square, hexagon	1
4	809, 453	1
5	 Lines must be accurate to within 1mm. Explanation must clearly show that Sasha must make a quarter-rotation anti-clockwise or three quarter-rotations clockwise. Accept turn as well as rotation.	1 1
6	1000ml 10 cups	1 1
7	0 8 16 **24** **32** 40 48	1
8	$\begin{array}{r} \mathbf{3}5 \\ \times \quad 3 \\ \hline 10\mathbf{5} \end{array}$	1
9	a = 300g, b = 150g, c = 650g 350g	1 1
10	250 potatoes 400 potatoes	1 1
11	34 wheels £680 (award one mark for evidence of correct approach to finding total)	1 2
12	$\frac{6}{7}$ $\frac{2}{7}$	1 1
13	There are **24 hours** in one day. There are **60 minutes** in one hour. There are **60 seconds** in one minute. 150 minutes Award 1 mark for evidence of correct knowledge and procedure.	1 2

Q	Answers	Marks
14	33 pupils Award 1 mark for clear evidence of understanding of calculating fractions of quantities.	2
15	Sparrow They might have counted the same bird twice.	1 1
16	$\begin{array}{r} \mathbf{6}65 \\ -4\mathbf{3}7 \\ \hline 228 \end{array}$	1
17	Ensure that each line is accurate to within one or two degrees. Both should be correct to award the one mark.	1
18	28 rows Award one mark for correct procedure for written method.	2
19	13 pupils	1
20	£1.28	1
21	150 and 250 Award 1 mark for evidence of an investigative approach but an incorrect answer.	2
	Total	**35**