Cambridge
Secondary 1

Mathematics

Stage 7

V2

UNIVERSITY *of* CAMBRIDGE
International Examinations

These tables give general guidelines on marking answers that involve number and place value, and units of length, mass, money or duration. If the mark scheme does not specify the correct answer, refer to these general guidelines.

Number and Place value

The table shows various general rules in terms of acceptable decimal answers.

Accept
Accept omission of leading zero if answer is clearly shown, e.g. **.675**
Accept tailing zeros, unless the question has asked for a specific number of decimal places, e.g. **0.7000**
Always accept appropriate tailing zeros, e.g. **3.00 m; 5.000 kg**
Accept a comma as a decimal point if that is the convention that you have taught the children, e.g. **0,638**

Units

For questions involving quantities, e.g. length, mass, time or money, correct units must be given in the answer. The table shows acceptable and unacceptable versions of the answer 1.85 m.

	Correct answer	Also accept	Do not accept
Units are not given on answer line and the question does not specify a unit for the answer	1.85 m	Correct conversions provided the unit is stated, e.g. 1 m 85 cm 185 cm 1850 cm 1850 mm 0.00185 km	1.85 185 m
If the unit is given on the answer line, e.g. ………………… m	……1.85…… m	Correct conversions, provided the unit is stated unambiguously, e.g. ……185 cm…… m	……185…… m ……1850…… m etc.
If the question states the unit that the answer should be given in, e.g. "Give your answer in metres"	1.85 m	1.85 1 m 85 cm	185; 1850 Any conversions to other units, e.g. 185 cm

Money

For questions involving money, it is essential that appropriate units are given in the answer.

The table shows acceptable and unacceptable versions.

	Accept	Do not accept
If the amount is in dollars and cents, the answer should be given to two decimal places.	$0.30 $9 or $9.00	 $09 or $09.00
If units are not given on answer line	Any unambiguous indication of the correct amount, e.g. 30 cents; 30 c $0.30; $0.30 c; $0.30 cents $0-30; $0=30; $00:30	30 or 0.30 without a unit Incorrect or ambiguous answers, e.g. $0.3; $30; $30 cents; 0.30 cents
If $ is shown on the answer line	$......**0.30**…… $......**0.30 cents**…… Accept all unambiguous indications, as shown above	$......**30**…… $......**30 cents**…… (this cannot be accepted because it is ambiguous, but if the dollar sign is deleted it becomes acceptable)
If cents is shown on the answer line	……**30**……cents ……**$0.30**……cents	……**0.30**……cents ……**$30**……cents

Duration

Accept any unambiguous method of showing duration and all reasonable abbreviations of hours (h, hr, hrs), minutes (m, min, mins) and seconds (s, sec, secs).

Accept	Do not accept
Any unambiguous indication using any reasonable abbreviations of hours (h, hr, hrs), minutes (m, min, mins) and seconds (s, sec, secs), e.g. 2 hours 30 minutes; 2 h 30 m; 02 h 30 m 5 min 24 sec; 00 h 05 m 24 s	Incorrect or ambiguous formats, e.g. 2.30; 2.3; 2.30 hours; 2.30 min; 2 h 3; 2.3 h
Any correct conversion with appropriate units, e.g. 2.5 hours; 150 mins 324 seconds	 2.5; 150 304
Also accept unambiguous digital stopwatch format, e.g. 02:30:00 00:05:24; 05:24 s	Do not accept ambiguous indications, e.g. 02:30 5.24

Time

There are many ways to write times, in both numbers and words, and marks should be awarded for any unambiguous method. Accept time written in numbers or words unless there is a specific instruction in the question. Some examples are given in the table.

Accept	Do not accept
Any unambiguous indication of correct answer in numbers, words or a combination of the two, e.g. 07:30; 19:00	Incorrect or ambiguous formats, e.g.
0730; 07 30; 07.30; 07,30; 07-30; 7.30; 730 a.m.; 7.30am; 7.30 in the morning	07.3; 073; 07 3; 730; 73; 7.3; 7.3 am; 7.30 p.m
Half past seven (o'clock) in the morning Thirty minutes past seven am Also accept: O-seven-thirty	
1900; 19 00; 19_00 etc.	19; 190; 19 000; 19.00 am; 7.00 am
Nineteen hundred (hours) Seven o'clock in the afternoon/evening	
Accept correct conversion to 12-hour clock, e.g. 16:42 4.42 p.m.	4.42 am; 0442; 4.42
Sixteen forty two Four-forty-two in the afternoon/evening Four forty two p.m. Forty two (minutes) past four p.m. Eighteen (minutes) to five in the evening	Forty two (minutes) past sixteen Eighteen (minutes) to seventeen
Also accept a combination of numbers and words, e.g. 18 minutes to 5 p.m. 42 minutes past 4 in the afternoon	

Stage 7 Paper 1 Mark Scheme

Question	1		
Part	**Mark**	**Answer**	**Further Information**
	1	2 (°C)	
Total	**1**		
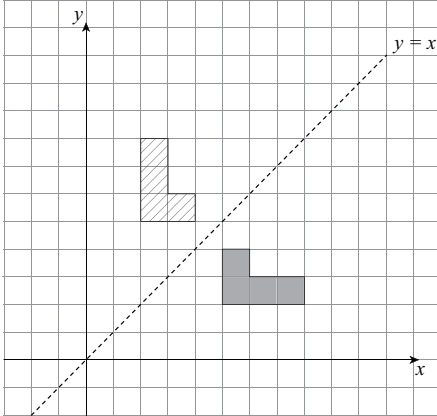
Question	2		
Part	**Mark**	**Answer**	**Further Information**
(a)	**1**	225	
(b)	**1**	9	
Total	**2**		

Question	3		
Part	**Mark**	**Answer**	**Further Information**
(a)	**1**	17 260	
(b)	**1**	100	
Total	**2**		

Question	4		
Part	**Mark**	**Answer**	**Further Information**
	1	$\dfrac{15}{50}$ or equivalent	
Total	**1**		

Question	5		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	$6\frac{3}{4}$	
(b)	1	$\frac{19}{5}$	
Total	**2**		

Question	6		
Part	**Mark**	**Answer**	**Further Information**
	1	($) 12	
Total	**1**		

Question	7		
Part	**Mark**	**Answer**	**Further Information**
	1	Correct reflection in $y = x$	Accept slight inaccuracy in drawing as long as the intention is clear. Ignore any shading.
Total	**1**		

Question	8		
Part	**Mark**	**Answer**	**Further Information**
	1	57	Accept 57°
Total	**1**		

Question	9		
Part	**Mark**	**Answer**	**Further Information**
	1	5.7	
Total	**1**		

Question	10		
Part	**Mark**	**Answer**	**Further Information**
(a)	**1**	70	Accept 70°
(b)	**1**	Yes **and** a correct reason e.g. the angles do not add up to 360	Do not accept yes with no reason. Do not accept an explanation of angles add up to 370 on its own.
Total	**2**		

Question	11		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	5(°C)	Do not accept 6 – 11 or 11 – 6
(b)	1	21(°C)	
(c)	2	Any two valid distinct comments. e.g. The temperature everyday is higher in Sydney than in London. On average, Sydney is hotter. same range or equally spread	1 mark for each Do not accept the general statement 'Sydney is hotter than London' without reference to either an average or the time period.
Total	4		

Question	12		
Part	**Mark**	**Answer**	**Further Information**
	1	**(** 18 + 7 **)** ÷ **(** 3 + 2 **)** = 5	
Total	1		

Question	13		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	$y = 12 + x$ $y = 12 \div x$ $\boxed{y = 12x}$ $y = 12 - x$	Accept any clear indication.
(b)	1	240 (screws)	Accept 32 if $y = 12 + x$ is ringed in (a).
Total	2		

Question	14		
Part	**Mark**	**Answer**	**Further Information**
	2	(see table below)	2 marks for all 3 rows. 1 mark for 1 or 2 rows. Award 1 mark if all ticks are correct but no crosses are used.
Total	**2**		

	Type of triangle		
Triangle	**Scalene**	**Right angled**	**Isosceles**
A	✓	✓	✓
B	✗	✗	✓
C	✗	✓	✓
D	✓	✗	✗

Question	15		
Part	**Mark**	**Answer**	**Further Information**
	2	$\frac{5}{8}$	1 mark for sight of $\frac{3}{8}$ in working.
Total	**2**		

Question	16		
Part	**Mark**	**Answer**	**Further Information**
	2	(see table below)	1 mark for cube **or** cuboid. Accept any other shape with the correct properties. 1 mark for 8 and 6 in the correct positions.
Total	**2**		

	Number of faces	Number of vertices	Number of edges
Square based pyramid	5	5	8
Cube **or** cuboid	6	8	12
Triangular prism	5	6	9

Question	17		
Part	**Mark**	**Answer**	**Further Information**
	2		1 mark for each correct connection. Do not accept any answer where two lines are joined to one box.
Total	**2**		

Question	18		
Part	**Mark**	**Answer**	**Further Information**
	2	6 (cm)	Accept 2 marks for 6 cm, with no working shown. 1 mark for perimeter = 24 (cm) **or** 1 mark for evidence of a correct method.
Total	**2**		

Question	19		
Part	**Mark**	**Answer**	**Further Information**
	2	16 (rows)	1 mark for 15 or 15 r22
Total	**2**		

Question	20		
Part	**Mark**	**Answer**	**Further Information**
	1	7 : 4	correct answer only
Total	**1**		

Question	21		
Part	**Mark**	**Answer**	**Further Information**
	1	$\frac{16}{30}$ $\boxed{\frac{12}{20}}$ $\frac{14}{25}$ $\frac{28}{35}$ $\boxed{\frac{9}{15}}$	Accept any clear indication. Both correct answers must be indicated with no extras for the mark to be awarded.
Total	1		

Question	22		
Part	**Mark**	**Answer**	**Further Information**
	2	($)17.87	1 mark for sight of $32.13 in the working. 1 mark for a complete method with no more than one arithmetic error.
Total	2		

Question	23		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	Bar for car height 6	Bar can be any width but must not be a single line. Accept any clear intention.
(b)	1	24 (students)	Follow through from incorrect answer in part (a).
Total	2		

Question	24		
Part	**Mark**	**Answer**	**Further Information**
(a)	**1**	27 (litres)	
(b)	**1**	8 (litres)	
Total	**2**		

Question	25		
Part	**Mark**	**Answer**	**Further Information**
	2	55 (°)	1 mark for angle CAD or angle CDA = 35°
Total	**2**		

Question	26		
Part	**Mark**	**Answer**	**Further Information**
	1	any 5 squares in A shaded	Accept any clear intention including half squares provided that they add up to 5
Total	**1**		

Question	27		
Part	**Mark**	**Answer**	**Further Information**
	1	Yes **and** correct explanation e.g. A and D both round to 5000	Do not award mark for Yes without valid explanation. Accept A and D both round to the same number.
Total	**1**		

Stage 7 Paper 2 Mark Scheme

Question	1		
Part	**Mark**	**Answer**	**Further Information**
	2		2 marks for all 4 correct. 1 mark for 3 correct.
Total	**2**		

Question	2		
Part	**Mark**	**Answer**	**Further Information**
	1	6.6	
Total	**1**		

Question	3		
Part	**Mark**	**Answer**	**Further Information**
	1	57.5 cm, 0.6 m, 180 cm, 2043 mm, 2.4 m	Accept any clear intention including omission of units.
Total	**1**		
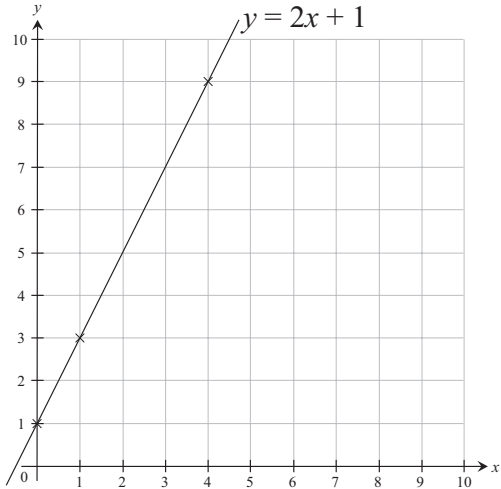
Question	4		
Part	**Mark**	**Answer**	**Further Information**
	1	($) 70(.00)	
Total	**1**		

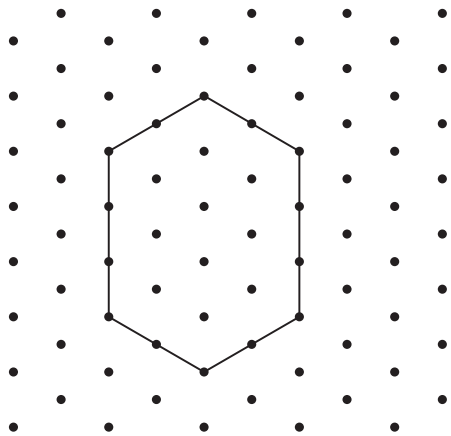| Question	5		
Part	**Mark**	**Answer**	**Further Information**
	2	<table><tr><td></td><td>**Number of lines of symmetry**</td><td>**Order of rotational symmetry**</td></tr><tr><td>**Square**</td><td>4</td><td>4</td></tr><tr><td>**Rectangle**</td><td>2</td><td>2</td></tr><tr><td>**Rhombus**</td><td>2</td><td>2</td></tr><tr><td>**Kite**</td><td>1</td><td>1</td></tr></table>	Award 1 mark for two correct rows. **or** Award 1 mark for one column completed correctly.
Total	**2**		
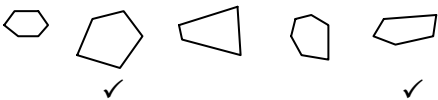
Question	6		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	21 **and** 15, in the correct order	Both numbers must be correct for the award of the mark.
(b)	1	17 **and** 16, in the correct order	Both numbers must be correct for the award of the mark.
Total	**2**		

Question	7		
Part	**Mark**	**Answer**	**Further Information**
	2	<table><tr><td>**Ages (years)**</td><td>**Frequency**</td></tr><tr><td>**1-20**</td><td>4</td></tr><tr><td>**21-40**</td><td>7</td></tr><tr><td>**41-60**</td><td>6</td></tr><tr><td>**61-80**</td><td>3</td></tr></table>	Award 1 mark for 2 or 3 correct frequencies. **or** Award 1 mark for frequency column completed with the correct number of tally marks only.
Total	**2**		

Question	8		
Part	**Mark**	**Answer**	**Further Information**
	1	4 hundredths or $\frac{4}{100}$	
Total	**1**		

Question	9		
Part	**Mark**	**Answer**	**Further Information**
(a)	**1**		Both numbers must be correct.
(b)	**2**		Award 1 mark for points plotted correctly. Allow follow through from incorrect table. Award 1 mark for straight line correctly labelled.
Total	**3**		

Question	10		
Part	**Mark**	**Answer**	**Further Information**
	1	Uses 6 dots to form the vertices of a hexagon that is symmetrical but not regular, e.g.	Accept slight inaccuracy in drawing so long as intention is clear.
Total	**1**		

Question	11		
Part	**Mark**	**Answer**	**Further Information**
	1		Accept any clear indication.
Total	**1**		

Question	12		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	D plotted at (–2,1)	Accept correct point plotted without label. Accept slight inaccuracy in the position of the point
(b)	1	(–2,1)	Follow through from incorrect point D.
Total	**2**		

Question	13		
Part	**Mark**	**Answer**	**Further Information**
	1	−20	
Total	**1**		

Question	14		
Part	**Mark**	**Answer**	**Further Information**
	1	Any four odd numbers and any two even numbers.	Accept repeated numbers.
Total	**1**		

Question	15		
Part	**Mark**	**Answer**	**Further Information**
	1	$b+1$ $4a-3$ ab $a+b$ ✓ ✓	Accept any clear indication. Both must be correct with no extras selected.
Total	**1**		

Question	16		
Part	**Mark**	**Answer**	**Further Information**
	2	25 16 41 **or** 23 36 54	Award 1 mark for both a square number **and** a prime number using the given digits.
Total	**2**		

Question	17		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	Multiply by 2 or double.	Accept any valid answer that generates these terms.
(b)	1	21	
Total	**2**		

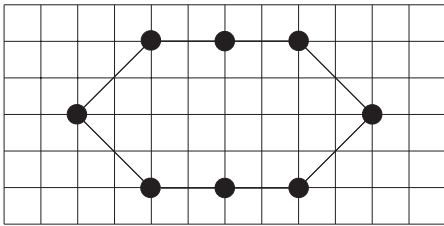| Question	18		
Part	**Mark**	**Answer**	**Further Information**
	2	($)4.76	Award 1 mark for the complete correct method. Do not award a mark for the price of one lemon only.
Total	**2**		

Question	19		
Part	**Mark**	**Answer**	**Further Information**
	1	$235 \div 25 = 9\,\boxed{\dfrac{2}{5}}$	correct answer only Do not accept 9.4 or any unsimplified fraction.
Total	**1**		

Question	20		
Part	**Mark**	**Answer**	**Further Information**
(a)	2	188(cm²)	Award 1 mark for any correct method.
(b)	1	168(cm³)	
Total	**3**		

Question	21		
Part	Mark	Answer	Further Information
(a)	1	7	
(b)	2	6.1	Award 1 mark for clear attempt to multiply scores by frequencies and adding them.
Total	3		

Question	22		
Part	Mark	Answer	Further Information
	1	✓　　　✓	Accept any clear indication. Both must be ticked with no extras.
Total	1		

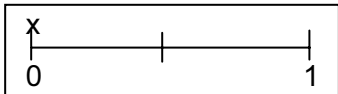| Question	23		
Part	Mark	Answer	Further Information
	1	40°　55°　30°　35°　65°　70° 　　✓　　✓	Accept any clear indication. Both must be ticked with no extras.
Total	1		

　　　　P110/M/A/M/11

Question	24		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	4*a* + *b*	Accept any equivalent expression.
(b)	1	Any closed shape with the correct perimeter. e.g. 	
Total	2		

Question	25		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	(0).625	Do not accept rounded or truncated answers.
(b)	1	$\dfrac{3}{5}$ $\dfrac{5}{8}$ $\dfrac{13}{20}$ $\dfrac{7}{10}$ $\dfrac{3}{4}$	Accept any equivalent decimals.
Total	2		

Question	26		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	12 **and** 8, in either order	Both numbers must be correct.
(b)	1	Any 6 squares shaded	Accept any clear intention including half squares provided that they add up to 6
Total	2		

Question	27		
Part	**Mark**	**Answer**	**Further Information**
	2	regular pentagon correctly drawn	Award 1 mark for all angles within 2°
			Award 1 mark for all sides within 2 mm.
Total	**2**		

Stage 7 Paper 3 Mark Scheme

Question	Mark	Answer
1	½	62
2	½	7
3	½	($) 9
4	½	130 (mm)
5	½	133 (°)
6	½	(7 + 3) x 4
7	½	x + 4 (years)
8	½	evens or $\frac{1}{2}$, or equivalent (Do not accept equal or a ratio.)
9	½	30(°) ± 5° (Check the angle on your printed answer sheet.)
10	½	89
11	½	213
12	½	36
13	½	6.3
14	½	1 hour 30 mins or equivalent
15	½	56
16	½	($) 6
17	½	$5\frac{2}{3}$ or exact equivalent (Do not accept a decimal.)
18	½	27 (cm³)
19	½	X at 0 Any clear indication.
20	½	6 (people)