

Cambridge Secondary 1 Progression Test
Mark scheme

Cambridge
Secondary 1

Mathematics

Stage 7



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 trailing zeros, unless the question has asked for a specific number of decimal places, e.g. 0.7000
Always accept appropriate trailing 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. m1.85..... m	Correct conversions, provided the unit is stated unambiguously, e.g.185 cm..... m185..... m1850..... 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 30cents \$0.30cents 0.30cents \$30cents

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
<p>Any unambiguous indication of correct answer in numbers, words or a combination of the two, e.g. 07:30; 19:00</p> <p>0730; 07 30; 07.30; 07,30; 07-30; 7.30; 730 a.m.; 7.30am; 7.30 in the morning</p> <p>Half past seven (o'clock) in the morning Thirty minutes past seven am Also accept: O-seven-thirty</p> <p>1900; 19 00; 19_00 etc.</p> <p>Nineteen hundred (hours) Seven o'clock in the afternoon/evening</p> <p>Accept correct conversion to 12-hour clock, e.g. 16:42 4.42 p.m.</p> <p>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</p> <p>Also accept a combination of numbers and words, e.g. 18 minutes to 5 p.m. 42 minutes past 4 in the afternoon</p>	<p>Incorrect or ambiguous formats, e.g.</p> <p>07.3; 073; 07 3; 730; 73; 7.3; 7.3 am; 7.30 p.m</p> <p>19; 190; 19 000; 19.00 am; 7.00 am</p> <p>4.42 am; 0442; 4.42</p> <p>Forty two (minutes) past sixteen Eighteen (minutes) to seventeen</p>

Stage 7 Paper 1 Mark Scheme

Question	1		
Part	Mark	Answer	Further Information
	1	2 (°C)	
Total	1		

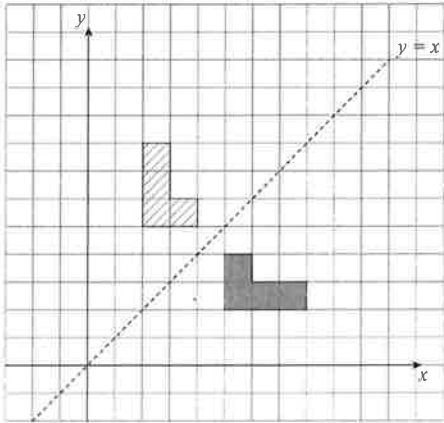
Question	2		
Part	Mark	Answer	Further Information
(a)	1	225	
(b)	1	9	
Total	2		

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

Question	4		
Part	Mark	Answer	Further Information
	1	$\frac{15}{50}$ 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	<p>Correct reflection in $y = x$</p> 	<p>Accept slight inaccuracy in drawing as long as the intention is clear.</p> <p>Ignore any shading.</p>
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	$(18 + 7) \div (3 + 2) = 5$	
Total	1		

Question	13		
Part	Mark	Answer	Further Information
(a)	1	$y = 12 + x$ $y = 12 \div x$ $y = 12x$ $y = 12 - x$	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	<table border="1"> <thead> <tr> <th></th> <th colspan="3">Type of triangle</th> </tr> <tr> <th>Triangle</th> <th>Scalene</th> <th>Right angled</th> <th>Isosceles</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>B</td> <td>x</td> <td>x</td> <td>✓</td> </tr> <tr> <td>C</td> <td>x</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>D</td> <td>✓</td> <td>x</td> <td>x</td> </tr> </tbody> </table>		Type of triangle			Triangle	Scalene	Right angled	Isosceles	A	✓	✓	✓	B	x	x	✓	C	x	✓	✓	D	✓	x	x				<p>2 marks for all 3 rows.</p> <p>1 mark for 1 or 2 rows.</p> <p>Award 1 mark if all ticks are correct but no crosses are used.</p>
	Type of triangle																													
Triangle	Scalene	Right angled	Isosceles																											
A	✓	✓	✓																											
B	x	x	✓																											
C	x	✓	✓																											
D	✓	x	x																											
Total	2																													

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	<table border="1"> <thead> <tr> <th></th> <th>Number of faces</th> <th>Number of vertices</th> <th>Number of edges</th> </tr> </thead> <tbody> <tr> <td>Square based pyramid</td> <td>5</td> <td>5</td> <td>8</td> </tr> <tr> <td>Cube or cuboid</td> <td>6</td> <td>8</td> <td>12</td> </tr> <tr> <td>Triangular prism</td> <td>5</td> <td>6</td> <td>9</td> </tr> </tbody> </table>		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				<p>1 mark for cube or cuboid.</p> <p>Accept any other shape with the correct properties.</p> <p>1 mark for 8 and 6 in the correct positions.</p>
	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																			
Total	2																					

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

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

Question	19		
Part	Mark	Answer	Further Information
	2	16 (rows)	1 mark for 15 or 15r22
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	$\frac{16}{30}$ $\left(\frac{12}{20}\right)$ $\frac{14}{25}$ $\frac{28}{35}$ $\left(\frac{9}{15}\right)$	<p>Accept any clear indication.</p> <p>Both correct answers must be indicated with no extras for the mark to be awarded.</p>
Total	1		

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

Question	23		
Part	Mark	Answer	Further Information
(a)	1	Bar for car height 6	<p>Bar can be any width but must not be a single line.</p> <p>Accept any clear intention.</p>
(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		