Cambridge Assessment International Education

Mathematics

Stage 9

Paper 1

2025

Cambridge Lower Secondary Progression Test

Mark Scheme

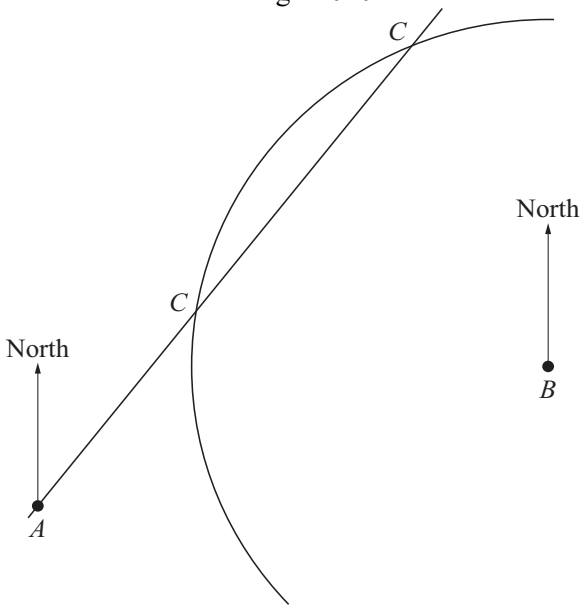
<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Part Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>(Largest =) 3.2×10^{6}

(Smallest =) 5.0×10^{-8}</td><td>2</td><td>Award 1 mark for each correct answer.</td><td></td></tr>
<tr><td>2</td><td>128 GB</td><td>1</td><td></td><td>Accept any clear indication.</td></tr>
<tr><td>3</td><td>Any two pairs of numbers such that $p + q = 2$
e.g. two from
(p =) 1 and (q =) 1
(p =) 0 and (q =) 2
(p =) 2 and (q =) 0</td><td>2</td><td>Award 1 mark for each correct pair.</td><td>Accept fractional, decimal or negative numbers, e.g.
(p =) 0.5 and (q =) 1.5
(p =) 3 and (q =) –1</td></tr>
<tr><td>4(a)</td><td>148</td><td>1</td><td></td><td></td></tr>
<tr><td>4(b)</td><td>$n^2 + 6$</td><td>1</td><td></td><td>Accept equivalent answers, e.g. $n^2 + 4 + 2$</td></tr>
<tr><td>5</td><td>$\sqrt{5}$ and π</td><td>1</td><td></td><td>Both answers correct for the mark.
Accept any clear indication.</td></tr>
<tr><td>6(a)</td><td>Two correct entries in the table.<table><tr><td>(A)</td><td>(120°)</td><td>60(°)</td></tr><tr><td>(B)</td><td>108(°)</td><td>(72°)</td></tr></table></td><td>1</td><td></td><td>Both answers correct in the correct spaces for the mark.</td></tr>
<tr><td>6(b)</td><td>The interior angle [of polygon A] is a factor of 360°.</td><td>1</td><td></td><td>Accept any equivalent answer, e.g. 120° divides exactly into 360°.</td></tr>
</table>

Question	Answer	Marks	Part Marks	Guidance
7	$(b =)$ [±] $\sqrt{a+4}$	**2**	Award 1 mark for correct first step $a + 4 = b^2$ **or** for correct answer followed by incorrect subsequent working.	
8	(0, 3)	**1**		Accept any clear indication.
9	<table><tr><th>True</th><th>False</th></tr><tr><td>✓</td><td></td></tr><tr><td></td><td>✓</td></tr></table>	**1**		Both answers correct for the mark. Accept any clear indication.
10(a)	Five correct probabilities correctly placed on tree diagram $\frac{3}{4}, \frac{2}{5}, \frac{3}{5}, \frac{2}{5}, \frac{3}{5}$	**2**	Award 1 mark for at least one correct probability correctly placed.	Accept equivalent fractions, decimals or percentages.
10(b)	$\frac{9}{20}$	**2**	Award 1 mark for $\frac{3}{4} \times \frac{3}{5}$ or for *their* $\frac{3}{4} \times$ *their* $\frac{3}{5}$	Accept equivalent fractions, decimals or percentages. For 1 mark, *their* $\frac{3}{4}$ and *their* $\frac{3}{5}$ must be between 0 and 1

Question	Answer	Marks	Part Marks	Guidance
11(a)	30 (cm)	**1**		
11(b)	44 (cm^2)	**1**		
12	Any correct fraction in the given range, e.g. $\frac{11}{26}$	**1**		Numerator and denominator must be integers.
13(a)	0.35	**1**		
13(b)	12	**1**		
13(c)	20	**1**		
14	314 cm^3	**1**		Accept any clear indication.
15	Output of 1.25 Inputs of 4 and –4	**2**	Award 1 mark for **one** or **two** correct answers.	Accept equivalent values for 1.25, e.g. $\frac{5}{4}$ Accept inputs of 4 and –4 in either order.
16	Hexagon	**1**		

Question	Answer	Marks	Part Marks	Guidance
17	(x =) 2.5 (y =) –1	**3**	Award 2 marks for **one** correct value **or** Award 1 mark for a correct method to eliminate one variable **or** for *their* two values satisfying one of the original equations.	Accept equivalent values for 2.5, e.g. $\frac{5}{2}$ Correct method, e.g. Multiplying one or both equations by a constant to get equal coefficients and correct consistent addition or subtraction **or** making x or y the subject and substituting into the other equation.
18(a)	(x =) 0.8[0]	**1**		
18(b)	($)17.50	**1**		

Question	Answer	Marks	Part Marks	Guidance
19	The two possible positions of C marked 6 cm from B and on a bearing of 040° from A.  	**3**	Award 2 marks for C marked 6 cm from B. **or** Award 1 mark for C marked on a bearing of 040° from A **and** Award 1 mark for 300 000 ÷ 50 000 seen or implied.	2 marks implied by one correct position of C. 1 mark implied by 6 cm seen.
20	4 –3	**2**	Award 1 mark for each correct answer.	
21	$4xy + 1$ (cm)	**2**	Award 1 mark for $4x(4xy + 1)$ **or** for either $4xy$ or 1 correct in a two-term expression.	
22	rotation **and** 180° **and** [centre of rotation] (1, –2)	**2**	Award 1 mark for **two** correct from • rotation • 180° • [centre of rotation] (1, –2)	Award 2 marks for enlargement s.f. −1 about (1, −2). Award 1 mark for enlargement s.f. −1 Award 0 marks for more than one transformation.

Question	Answer	Marks	Part Marks	Guidance
23	$1\frac{17}{20}$	**3**	Award 2 marks for an answer equivalent to $1\frac{17}{20}$ **or** Award 1 mark for $\frac{14}{15} \times \frac{3}{8} = \frac{7}{20}$ or equivalent **or** for $2\frac{1}{5} = \frac{11}{5}$ **or** for correctly changing *their* $\frac{11}{5}$ and $\frac{7}{20}$ to a common denominators prior to subtraction If 0 marks scored, award 1 mark for answer $\frac{19}{40}$ (incorrect order of operations).	For 2 marks, e.g. $\frac{37}{20}$, $1\frac{85}{100}$, 1.85 , …

Question	Answer	Marks	Part Marks	Guidance
24	$n = 10$ shown in the working **and** (Answer =) 11	**4**	Award 3 marks for $n = 10$ **or** Award 1 mark for $\frac{n+12}{2} = \frac{3}{2}n - 4$ or equivalent **and** Award 1 mark for correct first step in solving *their* equation in one unknown with unknown on both sides.	Accept any letter for the unknown. Accept 10 on the answer line for 3 marks. Or equivalent, e.g. $(x + 12) \div 2 = 3 \times x \div 2 - 4$ If from correct equation, correct first step could be, e.g. $n + 12 = 3n - 8$ **or** $\frac{n}{2} + 6 = \frac{3n}{2} - 4$
25	Any value for p in range $-10 < p < -5$	**1**		