Cambridge Assessment International Education

Mathematics

Stage 8

Paper 1

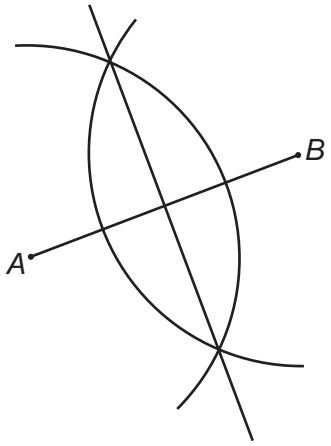
2022

Cambridge Lower Secondary Progression Test

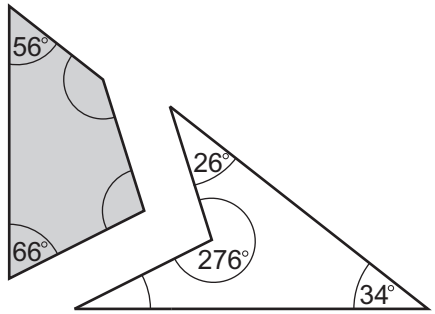
Mark Scheme

3142_01_MS_4RP

Question	Answer	Marks	Part Marks	Guidance
1	0.7	**1**		Accept 70% **or** $\frac{7}{10}$
2	1 10	**2**	Award 1 mark for each correct answer.	
3	-4	**1**		
4	(x =) 20	**1**		
5	20 : 17 correct answer only	**1**		Do **not** accept equivalents. Do **not** accept with units included.
6	$\frac{2}{5}$	**2**	Award 1 mark for $\frac{12}{15} - \frac{5}{15}$ **or** for $\frac{7}{15}$ **or** for answer equivalent to $\frac{2}{5}$ **or** $\frac{6}{7} \times$ (*their* subtraction) correctly evaluated **and** in its simplest form.	
7	(A =) (34, 14) (B =) (27, 0) (C =) (27, 14)	**2**	Award 1 mark for A **or** B **or** C correct.	
8	radius, chord (AB), diameter, circumference	**1**		All **four** answers in the correct order for the mark.

Question	Answer	Marks	Part Marks	Guidance
9	–20 100 71	**3**	Award 1 mark for each correct answer.	
10	$x - 1 > 4$ $5 > x$ $2x > 10$ $x \geq 4$ $5 < x$	**1**		Accept any clear indication. All **three** answers correct for the mark.
11(a)	$x = k$, where k is any number.	**1**		k can be 4
11(b)	*A* (*B*) *C* *D* *E*	**1**		Accept any clear indication.
11(c)	$y = -x$	**1**		
12	Accurate bisector with correct arcs.  	**2**	Award 1 mark for an accurate perpendicular bisector with no or incorrect arcs.	Arcs and accurate bisector must be present for 2 marks. Accuracy: $\pm 2°$ and ± 2 mm for the midpoint.

Question	Answer	Marks	Part Marks	Guidance
13	60 (minutes) 11 42 ± 3 minutes 135 (km) ± 3 km	**2**	Award 1 mark for **two** correct answers.	
14(a)	<table><tr><th>$n + k$ **or** $n - k$</th><th>$n \times k$</th></tr><tr><td>(A) **D**</td><td>**B** **C**</td></tr></table>	**1**		All **three** answers correct for the mark.
14(b)	799	**1**		
15	$6\frac{1}{3}$ correct answer only	**2**	Award 1 mark for $\frac{76}{12}$ **or** $\frac{19}{3}$ or equivalent.	Or equivalent, e.g. $6\frac{4}{12}$ **or** $6.\dot{3}$ for 1 mark.

Question	Answer	Marks	Part Marks	Guidance
16(a)	Ask every member who comes to the gym on Tuesday morning. ☐ Use a random number generator to generate 50 membership numbers and ask members with those numbers. ✓ Ask every 10th member who comes to the gym during one week. ☐ Call all members who haven't been to the gym for a month to ask them. ☐	**1**		Accept any clear indication.
16(b)	Accept any correct explanation, e.g. • The sample size is small. • The sample may not represent the population (because of sampling methods).	**1**		
17		**3**	Award 2 marks for **four** correct angles **or** award 1 mark for **two** correct angles.	Ignore degrees symbol.
18	241, 243, 245 421, 423, 425	**2**	Award 1 mark for **one** missing **or one** repeated.	Must be no repeats and none missing for 2 marks.

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Part Marks</th><th>Guidance</th></tr>
<tr><td>19(a)</td><td>-26.95</td><td>1</td><td></td><td></td></tr>
<tr><td>19(b)</td><td>0.9</td><td>1</td><td></td><td></td></tr>
<tr><td>20</td><td>(x) decimal between 0.45 and 0.5
and
(y) fraction between $\frac{12}{24}$ and $\frac{14}{24}$ e.g. $\frac{13}{24}$</td><td>2</td><td>Award 1 mark for
(x) decimal between 0.45 and 0.5
or
(y) fraction between $\frac{12}{24}$ and $\frac{14}{24}$
e.g. $\frac{13}{24}$</td><td></td></tr>
<tr><td>21</td><td>$(-4, 1)$</td><td>1</td><td></td><td></td></tr>
<tr><td>22</td><td><table><tr><th>Number of vertices</th><th>Number of faces</th><th>Number of edges</th></tr><tr><td>(4)</td><td>(4)</td><td>(6)</td></tr><tr><td>(12)</td><td>20</td><td>(30)</td></tr><tr><td>(v)</td><td>(f)</td><td>$\boldsymbol{v+f-2}$</td></tr></table></td><td>2</td><td>Award 1 mark for each correct answer.</td><td></td></tr>
<tr><td>23</td><td>1 014 049
1009
1 024 144</td><td>2</td><td>Award 1 mark for two correct answers.</td><td></td></tr>
</table>

Question	Answer	Marks	Part Marks	Guidance
24	$(x =)$ 5	**2**	Award 1 mark for $36 = 2^2 \times 3^2$ **or** $56 = 2^3 \times 7$ **or** for $\frac{36 \times 56}{3^2 \times 7}$ or equivalent or better **or** for answer 2^5	e.g. $\frac{2016}{63}$ **or** $\frac{4 \times 8}{1 \times 1}$ **or** 32
25	Any correct criticism, e.g. • The shapes representing the percentages are not in proportion to percentages. • The image is in 3D meaning it looks like volumes represent percentages.	**1**		Accept, e.g. science fiction is a bigger shape than action but represents a smaller percentage.
26	–135	**2**	Award 1 mark for 45×-3 or equivalent **or** for 45×-2 or equivalent **or** for answer 135	Implied by –90
27	*h* (is greater by) 1	**1**		
28	$6y$	**2**	Award 1 mark for $3y(2y - 5)$ **or** area of rectangle is $12y^2 - 30y$ or equivalent.	