Cambridge Secondary 1 Checkpoint

Cambridge International Examinations
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MATHEMATICS **1112/01**

Paper 1 **October 2015**

MARK SCHEME

Maximum Mark: 50

IMPORTANT NOTICE

Mark Schemes have been issued on the basis of **one** copy per Assistant examiner and two copies per Team Leader.

This document consists of **11** printed pages and **1** blank page.

IB15 10_1112_01/4RP

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Question number	1		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	16 41 or 4.41 pm	
(b)	1	19 min(utes)	
Total	**2**		

Question number	2		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	53 **and** 59 in either order	
(b)	1	A correct reason e.g. • 3 goes into 51 • 17 is a factor of 51 • 3 ×17 • 51 can be divided by 3	
Total	**2**		

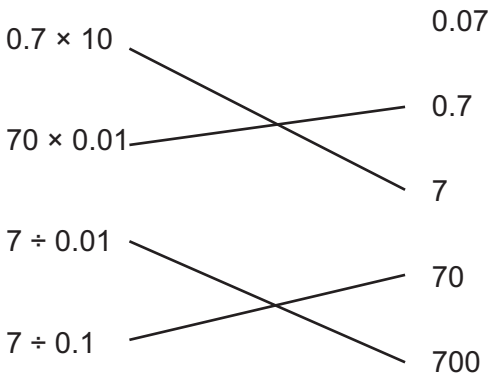
Question number	3		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	All points plotted correctly	
(b)	1	(–4,–2) **or** (–4,6)	Allow follow through from part (a) provided this results in a parallelogram.
Total	**2**		

Question number	4		
Part	**Mark**	**Answer**	**Further Information**
	2	$\frac{3}{5}$ $\quad$ (circled) $\frac{7}{20}$ $\quad$ $\frac{1}{3}$ (circled) $\frac{35}{100}$ $\quad$ $\frac{35}{10}$ $\quad$ $\frac{1}{35}$	Award 1 mark for ● 1 correct answer with none incorrect ● 2 correct answers with at most one incorrect
Total	**2**		

Question number	5		
Part	**Mark**	**Answer**	**Further Information**
	2	Draws a correct triangle within the constraints of the overlay.	Award 1 mark for angle between 32-36° **or** Award 1 mark for line between 7.0 and 7.4 cm
Total	**2**		

Question number	6		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	130.2	
(b)	1	$8\frac{17}{20}$ **or** $8\frac{34}{40}$ **or** $8\frac{85}{100}$	
Total	**2**		

Question number	7		
Part	**Mark**	**Answer**	**Further Information**
	1	Completes the table correctly. <table><tr><td>sleep</td><td>school</td><td>travel</td><td>eat</td><td>play</td></tr><tr><td>12</td><td>5</td><td>1</td><td>2</td><td>4</td></tr><tr><td>180°</td><td>75°</td><td>15°</td><td>30°</td><td>60°</td></tr></table>	
Total	**1**		

Question number	8		
Part	**Mark**	**Answer**	**Further Information**
	2		Award 1 mark for at least two correct.
Total	**2**		

Question number	9		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	19	
(b)	1	28	
Total	**2**		

Question number	10		
Part	**Mark**	**Answer**	**Further Information**
	1	$\frac{5}{12}$ or equivalent fraction	
Total	**1**		

Question number	11		
Part	**Mark**	**Answer**	**Further Information**
	2	m m^3 m^2 mm	Award 1 mark for any 2 correct.
Total	**2**		

Question number	12		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	$x \rightarrow \frac{x}{7}$ (or equivalent) **and** $x \rightarrow 2x + 1$ (or equivalent)	
(b)	1	**Add 3** and then **multiply by 4**	An equivalent answer is **Multiply by 4** and then **add 12**
Total	**2**		

Question number	13		
Part	**Mark**	**Answer**	**Further Information**
	2	48 (minutes)	Award 1 mark for 1 km in 6 minutes, or 3 km in 18 minutes. or $\frac{30}{5} \times 8$ seen (or equivalent) or 0.8 seen
Total	**2**		

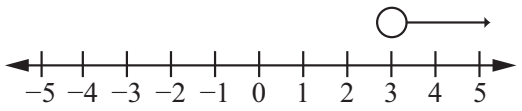
Question number	14		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	4n	
(b)	2	$3n + 4$ or equivalent	Award 1 mark for $3n + c$ **or** Award 1 mark for $kn + 4$ where $k \neq 0$
Total	**3**		

Question number	15		
Part	**Mark**	**Answer**	**Further Information**
	1	There are (three) pairs that each add up to 10	Do not accept 30 as an answer without any explanation.
Total	**1**		

Question number	16		
Part	**Mark**	**Answer**	**Further Information**
	2	$\frac{5}{6}$	Award 1 mark: for a correct unsimplified answer e.g. $\frac{10}{12}$ **or** for a correct method e.g. $\frac{3}{4} \times \frac{10}{9}$
Total	**2**		

Question number	17		
Part	**Mark**	**Answer**	**Further Information**
	3	(x =) 2.5 or equivalent	Award 2 marks for sight of $9 – 6x$ **and** a simplified equation of the form • $(-)8x = c$ • $ax = (-)20$ where a and c are whole numbers. Award 1 mark for • sight of $9 – 6x$ **or** • correct follow through from their expansion to reach an equation of the form $ax = b$.
Total	**3**		

Question number	18		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	11	
(b)	1	5	
Total	**2**		

Question number	19		
Part	**Mark**	**Answer**	**Further Information**
	1		
Total	**1**		

Question number	20		
Part	**Mark**	**Answer**	**Further Information**
	1	3880 (Hong Kong dollars)	
Total	**1**		

Question number	21		
Part	**Mark**	**Answer**	**Further Information**
	3	(*a* =) 64 (°) (*b* =) 32 (°) (*c* =) 84 (°)	Award 2 marks in any of these cases: • two of *a, b, c* are correct • *a* = 64 and *their a* + *b* + *c* = 180 • *their b* = $\frac{their\ a}{2}$ and *their a* + *b* + *c* = 180 Award 1 mark in any of these cases: • one of *a, b, c* is correct • *their b* = $\frac{their\ a}{2}$ • *their a* + *b* + *c* = 180
Total	**3**		

Question number	22		
Part	**Mark**	**Answer**	**Further Information**
	2	Enlargement **and** Scale factor 3 (or s.f. 3 or 3 times bigger) **and** (centre) (0, 1)	Award 1 mark for stating 1 of these 3 parts of the description.
Total	**2**		

Question number	23		
Part	**Mark**	**Answer**	**Further Information**
	1	48	
Total	**1**		

Question number	24		
Part	**Mark**	**Answer**	**Further Information**
	2	Award 1 mark for a reason that relates to sample size, e.g. • 10 is not enough people • She should ask more people **and** Award 1 mark for a reason that suggests that a wider range of people should be asked, e.g. • She should also ask people not waiting at the cinema • She should ask a wider range of people • She is only asking people who are visiting the cinema • She should collect data from more than one day	Do not accept 'Her results will be biased' unless accompanied with further exemplification.
Total	**2**		

Question number	25		
Part	**Mark**	**Answer**	**Further Information**
	2	12.5 km/h **or** 12500 m/h **or** 208.33.. m/min **or** 3.472.. m/s **or** equivalent using a different unit of speed or number as fraction	Award 1 mark for a correct numerical value. **or** Award 1 mark for any unit of speed e.g. m/s, km/min seen.
Total	**2**		

Question number	26		
Part	**Mark**	**Answer**	**Further Information**
	1	$\frac{90}{300}$ (or equivalent)	Do not accept ratios.
Total	**1**		

Question number	27		
Part	**Mark**	**Answer**	**Further Information**
	2	(A) B C D	Award 1 mark if two of B, C and D are correctly placed.
Total	**2**		

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