Cambridge Secondary 1 Checkpoint

Cambridge International Examinations
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MATHEMATICS **1112/02**

Paper 2 **For Examination from 2014**

SPECIMEN MARK SCHEME

MAXIMUM MARK: 50

This document consists of **9** printed pages and **1** blank page.

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Question	1		
Part	**Mark**	**Answer**	**Further Information**
	2	grams metres litres	Accept abbreviations. Award 1 mark for any two correct. Accept m^3 or cubic metres rather than litres.
Total	**2**		

Question	2		
Part	**Mark**	**Answer**	**Further Information**
	1	7	
Total	**1**		

Question	3		
Part	**Mark**	**Answer**	**Further Information**
	1	$15n + 21$	
Total	**1**		

Question	4		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	68	
(b)	1	9.7 (142…)	Follow through from **(a)** as their **(a)** ÷ 7. Accept 10 if working is seen.
Total	**2**		

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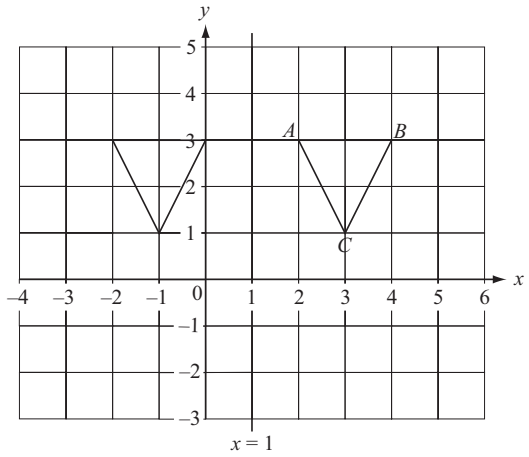
Question	5		
Part	**Mark**	**Answer**	**Further Information**
	2	($)87.20	Award 1 method mark for either 43.2 or 44 seen. **or** 7.20 × 6 + 8.80 × 5 seen.
Total	**2**		

Question	6		
Part	**Mark**	**Answer**	**Further Information**
	1	560 (cm^3)	
Total	**1**		

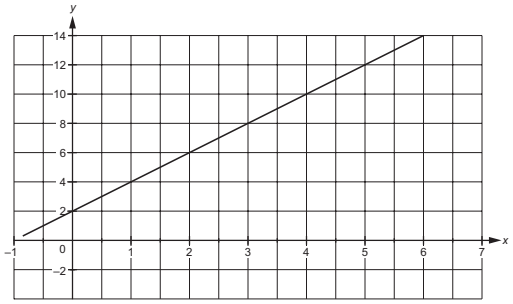
Question	7		
Part	**Mark**	**Answer**	**Further Information**
	2	(n =) 9.5 or equivalent	Award 1 mark for a correct first step that reduces the number of terms, e.g. $2n - 5 = 14$ $4n = 2n + 19$ (or better)
Total	**2**		

Question	8		
Part	**Mark**	**Answer**	**Further Information**
	2		1 mark for 3 correct.
Total	**2**		

Grade 7	11	18	16	45
Grade 8	22	19	34	75
Total	33	37	50	120

Question	9		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	4, 3	
(b)	2		Award 1 mark for a correct reflection in an incorrect vertical mirror line or $y = 1$.
(c)	1	5, 0	
(d)	1	2 (cm^2)	
Total	**5**		

Question	10		
Part	**Mark**	**Answer**	**Further Information**
	2	($)24	Award 1 mark for 8 seen. **or** $\frac{72}{9}$ × 3 seen.
Total	**2**		

Question	11		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	<table><tr><td>x</td><td>0</td><td>2</td><td>4</td><td>6</td></tr><tr><td>y</td><td>2</td><td>6</td><td>10</td><td>14</td></tr></table>	All 3 correct for the mark.
(b)	1		Follow through from **(a)** provided line drawn is straight. Line must extend at least from $x = 0$ to $x = 6$.
(c)	1	$x = 2.5$ (accept 2.4 – 2.6 inclusive) $y = 7$ (accept 6.9 – 7.1 inclusive)	Both correct for one mark. Follow through from **(b)** if there is a single intersection.
Total	**3**		

Question	12		
Part	**Mark**	**Answer**	**Further Information**
	1	5.455	
Total	**1**		

Question	13		
Part	**Mark**	**Answer**	**Further Information**
	1	An answer that implies that each angle in a regular pentagon is 108° (or that the sum of the angles is 540°) **or** An answer that implies that each exterior angle in a regular pentagon is 72°.	
Total	**1**		

Question	14		
Part	**Mark**	**Answer**	**Further Information**
	1	$y(y - 8)$	
Total	**1**		

Question	15		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	22 (minutes)	
(b)	1	9 (minutes)	
(c)	1	27 (minutes)	
Total	**3**		

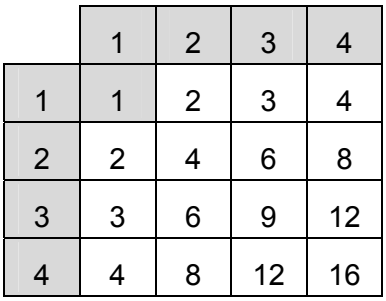
Question	16		
Part	**Mark**	**Answer**	**Further Information**
	2	6.25(%)	Award 1 mark for 500 ÷ 8000 **or** 0.0625 **or** 93.75 **or** 1 – 0.9375
Total	**2**		

Question	17		
Part	**Mark**	**Answer**	**Further Information**
	1	$(x + 3)\ (\ \boxed{x}\ -\ \boxed{4}\ ) = x^2 - x - 12$	In correct order.
Total	**1**		

Question	18		
Part	**Mark**	**Answer**	**Further Information**
	1	92 900 000 (miles)	
Total	**1**		

Question	19		
Part	**Mark**	**Answer**	**Further Information**
(a)	1	($)310 (accept answers between 307 and 313 inclusive)	
(b)	1	Puts a ring around $530 **and** gives a suitable reason (e.g. it fits in with the other points) or if a line of best fit is referred to.	
Total	**2**		

Question	20		
Part	**Mark**	**Answer**	**Further Information**
	4	1 mark for correct answer of $x = 7.1$ 1 mark for at least 4 correct trials. 1 mark for evidence of 'improvement' (trials getting closer to 7.1) 1 mark for a trial of 7.15	
Total	**4**		

Question	21		
Part	**Mark**	**Answer**	**Further Information**
(a)	1		All correct for 1 mark.
(b)	1	$\frac{3}{4}$ or $\frac{12}{16}$ or equivalent	Follow through for their number of even numbers ÷ 16
Total	**2**		

Question	22		
Part	**Mark**	**Answer**	**Further Information**
	3	20 (years)	Award 1 mark for correctly converting 2 tonnes to 2000 kg. (seen or implied) Award 1 mark for ('their 2000'-105) ÷ 95 **or** Award 2 marks for answer of 19 (with working) or 19.9
Total	**3**		

Question	23		
Part	**Mark**	**Answer**	**Further Information**
	3	Any answer that corrects to 5.0 to 1dp .e.g. 5.0462 **or** 5.05	Award 2 marks for an answer of 2.5… **or** Award 1 mark for $A = \pi r^2$ seen or evidence of its use. Award 1 mark for $r^2 = \frac{20}{\pi}$ (= 6.3…)
Total	**3**		

Question	24		
Part	**Mark**	**Answer**	**Further Information**
	3	8.65(68…) (cm)	Award 3 marks for 8.7 or 8.66 (cm) **or** $3 + \sqrt{32}$ Award 2 marks for sight of 5.65(68) or $\sqrt{32}$ or equivalent e.g. $4\sqrt{2}$ Award 1 mark for $4^2 + 4^2 = 32$ **or** Any attempt at using Pythagoras' theorem.
Total	**3**		

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