OCR
RECOGNISING ACHIEVEMENT

GCSE

Mathematics B (MEI)

General Certificate of Secondary Education

Unit **B292:** Paper 2 (Foundation – Terminal)

Mark Scheme for January 2011

Oxford Cambridge and RSA Examinations

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If answers clearly come from totally incorrect working, do not award the marks.

Section A

1	(a) 9, 3, 2, 6, 4	**2**	**B1** At least 4 correct frequencies or tallies	accept non-gated tallies condone relative frequencies
	(b) 4.5, 1.5, 1, 3, 2 symbols	**3ft**	**M2** At least 4 correct **M1** 3 correct	
	(c) $\frac{3}{24}$ oe	**2ft**	isw **M1** $\frac{?}{24}$ where ?<10	Sc1 for wrong notation e.g. 3 out of 24
2	(a) correct line	**1**		
	(b) correct line	**1**		
	(c) correct lines	**1**		
	(d) correct lines	**1**		
3	(a) (i) 50% (ii) 75%	**1** **1**		
	(b) (i) $\frac{5}{7}$ oe	**1**		
	(ii) $\frac{1}{4}$	**2**	**M1** for $\frac{2}{8}$ oe seen	

4	(a) Bob	**1**		
	(b) Cora	**1**		
	(c) Liz	**1**		condone Hamid
5	(a) (i) 20	**1**		
	(ii) 300	**1**		
	(iii) 2	**2**	**M1** for $\frac{2\times12}{12}$ or better	
	(iv) 8 **and** 9 soi 72	**M1** **A1**	**SC1** for 8 ×6=48, 6 ×9=54, 16 ×9=144	e.g. answer of 17
	(b) two of 0.4 or 0.5, 690 or 700, and 30 or 28 seen	**M1**		
	280 or 350 or 345 or 276 or 23	**A1**	accept 350	may be implied
	Conclusion e.g about 10 so 10.49...	**A1**		
6	(a) correct diagram	**1**		
	(b) 15	**1ft**		
	(c) 15, 19	**1**	cao	
	(d) goes up in 4's	**1**		
	(e) 4*L* - 1 oe	**2**	**M1** for 4*L* seen	

7	$3x + 5(x + 2) = 126$ or better $x = 14.50$	**2** **B3**	**M1** for $5(x + 2)$ **M1ft** for $3x + 5x + 10$ (= 126) or 126 -10 seen ft their $ax + b(x + 2)$ + **M1ft** for $8x = 126 – 10$ or *their* 116/8	
8	(a) Correct diagram with compass arcs at B	**3**	**B2** for correct, but no compass arcs **B1** for AD and DC correct	
	(b) Perpendicular bisector of BD with arcs Circle centre A radius 6.5 cm Correct line segment	**2** **1** **1ft**	± 2 mm, ± 1° **B1** without arcs ± 2 mm compass drawn ft from reasonable attempts at correct loci	
9	(a) Rectangle (1, 2), (3, 2), (3, 3), (1, 3)	**2**	**SC1** enlargement sf 2 centre (0,0) or sf $\frac{1}{2}$ with wrong centre.	
	(b) Rectangle (4, - 3), (8, -3), (8, -1), (4, -1)	**2**	**SC1** for x movement or y movement correct	

Section B

10	(a) correct reflection	**2**	**M1** for reflected triangle, or 2 correct pts	
	(b) (i) point marked	**1**		accept (i) and (iii) without labels
	(ii) (2, -1)	**1ft**		no ft if in first quadrant
	(iii) point marked	**1**		
11	(a) 70.68 6 85.08	**1** **1** **1**		
	(b) 3 x 32 x 8 (= 768)	**M2**	**M1** for 3x32 or 8x32 soi	
	/10 = 76.8 cm so No	**A1**	**If 0, SC2** for Yes with 25.6 cm as length.	
12	(a) 3, 5, 7	**1**		
	(b) 2, 4, 8	**1**		
	(c) 4, 9, 16	**1**		condone 2 out of 3 correct.

13	(a) $\frac{2}{9}$ (b) $\frac{5}{9}$ (c) $\frac{7}{9}$	**1** **1** **1**		Penalise once wrong notation **SC1** for all correct numerators with wrong denominator > 7
14	(a) 67.5 (b) £1345.50	**2** **2**	**M1** 450 x 0.15 or for 517.5 seen **M1** for 5850 x 0.23 or for £4504.50 seen to 3sf or better	
15	(a) (triangular) prism (b) cuboid (c) (square based) pyramid	**1** **1** **1**		Give mark if word 'prism' seen Or square prism
16	6*x* + 30	**2**	**M1** for either term correct, or both seen in workings	
17	(a) 37° exterior angle = sum opposite 2 interior angles. Isosceles angles equal (b) 74° corresponding angles	**1** **1** **1** **1** **1**	or straight line 180° **or** triangle 180°	allow F angles

18	(a) -1.73 , 1.73	**2**	**M1** for one correct answer rounded, or for both roots unrounded.	
	(b) 10	**1**		
	(c) 23	**1**	condone 17	
	(d) 32	**1**		
19	800 x 0.46 (= £368) 1000 - their 368 (= £632) *x* /0.38 1663.15...	**M1** **M1** **M1** **A1**	 *x*≠200, 800, 1000 3sf or better	
20	(a) Plotting 6 points	**2**	$\pm \frac{1}{2}$ small square **B1** for at least 3 correct	
	(b) line drawn	**1**	between 0.6 and 1.4, H = 80 and 145 and 155 at A = 11 and some points on either side	
	(c) H value read off at age 7	**1ft**	strict ft $\pm \frac{1}{2}$ small square, dep on ruled straight line with positive gradient	
	(d) No, too far out of range of data oe	**1**	Accept 'graph/points/table/data doesn't go that far Or 'change of rate of growth'	**Not** 'line'

21	(a) 180	**1**		
	(b) (i) -4, 32, (68), 104	**1**		
	(ii) Correct ruled line	**2**	**B1ft** for 3 of their points plotted	
	(c) 10 ± 2	**1**		

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