MARK SCHEME for the May/June 2013 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/23   Paper 2 (Extended), maximum raw mark 40

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

1		4×10^{-3}	2	**B1** 0.4×10^{-2} o.e.
2	**(a)**	0.9 o.e. cao	3	**M1** Correct expansion; condone 1 slip **M1** Correct simplification of their equation into the form $kx = a$
	(b)	60, 120, 240, 300	3	–1 for extra answer(s) in range, ignore answers out of range. **B1** for 60 **B1** for 120 **B1** for 240 or 300
3	**(a)**	1	1	
	(b)	$\dfrac{1}{9}$	2	**B1** for $27^{\frac{2}{3}} = 9$ soi
4	**(a)**	$3\sqrt{2}$	2	**B1** for either $10\sqrt{2}$ or $7\sqrt{2}$ seen
	(b)	$\dfrac{5 + \sqrt{3}}{2}$ o.e.	3	**M1** Multiplying by $\dfrac{\left(5 + \sqrt{3}\right)}{\left(5 + \sqrt{3}\right)}$ **M1** for $25 - 3$ seen
5	**(a)**	Correct for $x > 2$ and $x < -3$ Correct for $-3 < x < 1$ Correct curvature at $x = -3, 1, 2$	1 1 1	Approx correct height of maxima
	(b)	Correct curve	2	**B1** curve translated in x-direction
6		$[x =] \dfrac{3b}{a - b}$ www3	3	**M1** Correct multiplication **M1** Correct expansion and collection of terms **M1** Correct factorisation and division by *their* $(a - b)$
7		$x = 35$ $y = 55$ $z = 60$	1 1 1	
8	**(a)**	10	2	**M1** for $6^2 + 8^2$
	(b) (i)	(4, 5)	1	
	(ii)	$y - 5 = \dfrac{3}{4}(x - 4)$ o.e.	3	**B2** for $y = \dfrac{3}{4}x + k$ **B1** $\dfrac{-4}{3}$ seen **B1FT** their $\dfrac{3}{4}$ o.e. seen

9	8					3	**B1** for 2.25 o.e. or 135 seen **M1** $\dfrac{18}{their\ (2.25)}$ or $\dfrac{18}{135} \times 60$
10	(a)		**Buys Milk**	**Does not buy Milk**	**Total**	2	**B1** for 3 entries correct
		Buys Orange Juice	0.55	0.1			
		Does not buy orange juice		0.2	0.35		
		Total	0.7				
	(b)	0.25 o.e.				2	**M1** (*their*) 0.1 + 0.15

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