CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

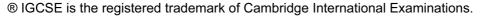
0607/22 Paper 2 (Extended), maximum raw mark 40

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 October/November 2015 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.





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Abbreviations

cao correct answer only

dep dependent

FT follow through after error isw ignore subsequent working

oe or equivalent SC Special Case

nfww not from wrong working

soi seen or implied

Qu	estion	Answer	Mark	Part Marks
1	(a)	20	1	
	(b)	1.6×10^{-6}	2	B1 for correct answer not in standard form
2	(a)	1.25 oe	3	M1 Correct expansion; condone 1 slip M1 Correct simplification of <i>their</i> equation into the form $kx = a$
	(b)	-2 3.5	1 1	
3		50	3	B2 for $x = 2y^2$ oe or M1 for $x = ky^2$ B1 for $k = 2$
4	(a)	$\frac{1}{36}$	2	M1 for $\frac{1}{6} \times \frac{1}{6}$ or $\frac{k}{36}$
	(b)	0 oe	1	
	(c)	$\frac{6}{36}$ oe	2	M1 for establishing all 6 possible combinations SC1 for $\frac{3}{36}$
5	(a)	$\begin{pmatrix} -1 \\ -3 \end{pmatrix}$	2	B1 for each component
	(b)	13	2	M1 for $\sqrt{5^2 + (-12)^2}$ or better
6	(a)	(4x+y)(2a-b)	2	B1 for factor of $4x + y$, or factor of $2a - b$ or factor of $b - 2a$ seen
	(b)	(3x+4)(x-3)	2	M1 for $(3x + a)(x + b)$, where $ab = -12$, or $a + 3b = -5$
7	(a)	1	1	
	(b)	$\frac{1}{25}$	1	

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Qu	estion	Answer	Mark	Part Marks
8	(a)	72	1	
	(b)	144	1FT	2 × their (a)
	(c)	18	1FT	<u>180 – their 144</u>
				2
	(d)	18	1FT	their (c)
9	(a)	4	3	M2 for $\sqrt{8^2 - \sqrt{48}^2}$
				or M1 for $8^2 = \sqrt{48}^2 + BC^2$ or better
	(b)	30	2	B1 for $\sin = \frac{4}{8}$ or $\cos = \frac{\sqrt{48}}{8}$ or $\tan = \frac{4}{\sqrt{48}}$
10		[<i>h</i> =] 2 [<i>k</i> =] - 3	1 1	
11		Bars with correct column widths Bars with heights 0.8, 3.2, 4, 1.2, 0.7	1 2	B1 for 3 or 4 correct