

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

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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
nfw	not from wrong working
soi	seen or implied

Question	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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Question	Answer	Mark	Part Marks
8 (a)	72	1	
(b)	144	1FT	$2 \times \text{their (a)}$
(c)	18	1FT	$\frac{180 - \text{their } 144}{2}$
(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	$[h=] 2$ $[k=] -3$	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