

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

**MARK SCHEME for the May/June 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.

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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

<b>1</b>	<b>(a)</b> 0.09	<b>1</b>	
	<b>(b)</b> 20	<b>1</b>	
<b>2</b>	<b>(a) (i)</b> 1	<b>1</b>	
	<b>(ii)</b> 1000	<b>1</b>	
	<b>(b)</b> $5^7$	<b>1</b>	
<b>3</b>	$2\sqrt{13}$	<b>3</b>	<b>M1</b> for $\sqrt{(-6)^2 + 4^2}$ oe <b>A1</b> for $\sqrt{52}$
<b>4</b>	<b>(a)</b> 0.23, 0.3, 0.15, 0.2	<b>2</b>	<b>M1</b> for at least 2 of $\frac{46}{200}, \frac{12}{40}, \frac{15}{100}, \frac{100}{500}$ soi
	<b>(b)</b> Dieter, More throws oe	<b>1</b>	
	<b>(c)</b> 246	<b>1</b>	
<b>5</b>	<b>(a)</b> (4, 4)	<b>1</b>	
	<b>(b)</b> -2	<b>2</b>	<b>M1</b> for clear evidence of $\frac{\text{rise}}{\text{run}}$
<b>6</b>	$28 + 10\sqrt{3}$ or $2(14 + 5\sqrt{3})$ final answer	<b>2</b>	<b>M1</b> for $25 + 5\sqrt{3} + 5\sqrt{3} + \sqrt{3} \times \sqrt{3}$ or better
<b>7</b>	$x \geq 5.5$ or $5\frac{1}{2}$ or $\frac{11}{2}$ final answer	<b>3</b>	<b>M1</b> for $2x + 3 \leq 4x - 8$ oe <b>M1 FT</b> for $3 + 8 \leq 4x - 2x$ oe
<b>8</b>	$396\pi$	<b>3</b>	<b>M1</b> for $\pi \times 6^2 \times 10$ or better <b>M1</b> for $\frac{1}{3} \times \pi \times 6^2 \times 3$ or better

Page 3	Mark Scheme	Syllabus	Paper
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9	$x = 3, y = -2$	4	<p><b>M1</b> for correctly equating one set of coefficients  <b>M1FT</b> for correct method to eliminate one variable  <b>A1</b> for <math>x = 3</math> or <math>y = -2</math>            If zero scored <b>SC1</b> for correct substitution into one of the original equations and correct evaluation, to find the other variable</p>
10 (a)	4	1	<p><b>M1</b> for correct use of a <math>a \log x = \log a^x</math>  <b>M1</b> for correct use of <math>\log a + \log b = \log ab</math>            or <math>\log a - \log b = \log \frac{a}{b}</math></p>
(b)	1000	1	
(c)	10	3	
11 (a)	110	2	<b>M1</b> for angle $DCO = 90 - 55$
(b)	55	1FT	<b>FT</b> $\frac{1}{2}$ their (a)
(c)	105	1	
12	F E D A	1 1 1 1	