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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/21**

Paper 2 (Extended)

**October/November 2016**

MARK SCHEME

Maximum Mark: 40

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**Published**

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.

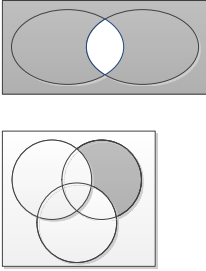
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### Abbreviations

awrt	answers which round to
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

Question	Answer	Mark	Part Marks
1	60	2	<b>M1</b> for $48 \div 4$ oe
2	A, H, N	2	<b>B1</b> for two correct
3 (a)	11	1	
(b)	14	1	
(c)	16	1	
4	0.00407	1	
5 (a)	3.5 oe	2	<b>M1</b> for $5 + (-1)(1.5)$ or better
(b)	$\frac{v-u}{t}$ oe final answer	2	<b>M1</b> for correct rearrangement for term in $a$ <b>M1</b> for correct division by $t$
6	$\frac{1}{2}$	3	<b>B2</b> for $\frac{9}{18}$ or <b>B1</b> for $\frac{16}{18}$ oe
7	90	3	<b>M2</b> for $\frac{360}{180-176}$ or $180(n-2) = 176n$ or <b>M1</b> for $180 - 176$ or $\frac{180(n-2)}{n} [= 176]$
8	50	3	<b>M2</b> for $180 - 100 - 0.5(180 - 120)$ or <b>M1</b> for angle $ADC = 80$ or angle $ADO = 30$ allow seen in correct place on diagram
9		2	<b>B1</b> for each

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<b>Question</b>	<b>Answer</b>	<b>Mark</b>	<b>Part Marks</b>
<b>10</b>	$4 + 3\sqrt{3}$ final answer	<b>2</b>	<b>B1</b> for $2\sqrt{3}\sqrt{3} + 2.2\sqrt{3} - \sqrt{3} - 2$ oe
<b>11</b>	2 4	<b>2</b>	<b>B1</b> for each
<b>12</b>	$\frac{1}{125}$	<b>2</b>	<b>B1</b> for 2 correct uses of index notations e.g. 125 or $\frac{1}{5}$ or $\frac{1}{15625}$ seen or <b>M1</b> for $\frac{1}{(\sqrt{25})^3}$
<b>13</b>	$\sqrt{3}$ or $3^{\frac{1}{2}}$	<b>2</b>	<b>M1</b> for $3^{\frac{4}{8}}$ or $x^2 = 3$ or <b>B1</b> for $\sqrt[8]{81}$ oe
<b>14</b>	[a = ] -3 [b = ] -10	<b>3</b>	<b>M1</b> for $(x-5)(x+2)[=0]$ or for $0 = 25 + 5a + b$ and $0 = 4 - 2a + b$ <b>A1</b> for $a$ or $b$ correct
<b>15</b>	$\frac{6}{\sqrt{x-3}}$ final answer	<b>2</b>	<b>M1</b> for $y = \frac{k}{\sqrt{x-3}}$
<b>16</b>	[a = ] 2 [b = ] 4	<b>2</b>	<b>B1</b> for each
<b>17 (a)</b>	9	<b>1</b>	
<b>(b)</b>	$\frac{5}{2}$ oe	<b>1</b>	