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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/12**

Paper 1 (Core)

**May/June 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   |
|--------------|---|----------|--|
| <b>1</b>     | $\frac{3}{4}$                                       | <b>2</b> | <b>B1</b> for 45 seen or $\frac{45}{60}$ or $\frac{15}{20}$ oe |
| <b>2</b>     | One line only, horizontally through centre of shape | <b>1</b> |  |
| <b>3</b>     | Parallelogram                                       | <b>1</b> | <b>B0</b> for rhombus  |
|              | Trapezium   | <b>1</b> |  |
|              | Equilateral triangle                                | <b>1</b> | <b>B0</b> for triangle   |
| <b>4 (a)</b> | 9   | <b>1</b> | Accept $-9$ or $\pm 9$   |
| <b>(b)</b>   | 2   | <b>1</b> |  |
| <b>5 (a)</b> | $\frac{30}{100}$ or equivalent fraction             | <b>1</b> |  |
| <b>(b)</b>   | 90  | <b>1</b> |  |
| <b>(c)</b>   | 51  | <b>2</b> | <b>M1</b> for $34 + 17$ oe seen or $0.15 \times 340$           |
| <b>6 (a)</b> | 55  | <b>2</b> | <b>M1</b> for $90 + 35$ soi by 125                             |
| <b>(b)</b>   | 70  | <b>2</b> | <b>M1</b> for $180 - 40$ or better                             |
| <b>7</b>     | $\frac{6}{35}$ or equivalent fraction               | <b>2</b> | <b>B1</b> for either correct denominator or correct numerator  |
| <b>8 (a)</b> | 3   | <b>1</b> |  |
| <b>(b)</b>   | 8   | <b>2</b> | <b>M1</b> for $\frac{9}{3} + \frac{30}{6}$                     |
| <b>(c)</b>   | Lower and correct reason                            | <b>1</b> |  |

|               |  |                 |              |
|---------------|--|-----------------|--------------|
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| <b>Question</b> | <b>Answer</b>                           | <b>Mark</b>          | <b>Part marks</b>  |
|-----------------|---|----------------------|--|
| <b>9 (a)</b>    | $\frac{1}{6}$ oe                        | <b>1</b>             |  |
| <b>(b)</b>      | $\frac{5}{6}$ oe                        | <b>1 FT</b>          | <b>FT 1</b> – <i>their</i> (a), if $0 < \textit{their} (a) < 1$  |
| <b>10 (a)</b>   | $x(1 - 5x)$ final answer                | <b>1</b>             |  |
| <b>(b)</b>      | $-\frac{4}{5}$ oe                       | <b>3</b>             | <b>B2</b> for $4 \div -5$<br>or <b>M1</b> for $\frac{2 \times 5 - 3 \times 2}{-5}$                     |
| <b>11</b>       | $[x =] 5$<br>$[y =] 1$                  | <b>1</b><br><b>1</b> | If zero scored, <b>SCI</b> for correct substitution <b>and</b> evaluation to find the other variable   |
| <b>12</b>       | 1 2 3 4                                 | <b>2</b>             | <b>B1</b> for 3 correct with only 1 incorrect<br>or <b>M1</b> for $1 \leq n < 5$                       |
| <b>13 (a)</b>   | $\begin{pmatrix} 4 \\ -3 \end{pmatrix}$ | <b>2</b>             | <b>B1</b> for each component<br>If zero scored, <b>SCI</b> for $\begin{pmatrix} -4 \\ 3 \end{pmatrix}$ |
| <b>(b)</b>      | Plot at (4, 3)                          | <b>1</b>             |  |
| <b>14</b>       | $x = 0$<br>$y = -1$                     | <b>1</b><br><b>1</b> | Accept $y$ -axis<br><br>If zero, <b>SC1</b> for asymptotes indicated on graph                          |
| <b>15 (a)</b>   | 30                                      | <b>1</b>             |  |
| <b>(b)</b>      | 24                                      | <b>2</b>             | <b>B1</b> for frequencies of 20 or 44 seen   |