

**MARK SCHEME for the May/June 2012 question paper**  
**for the guidance of teachers**

**0607 CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/05**

Paper 5 (Core), maximum raw mark 24

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 must be read in conjunction with the question papers and the report on the examination.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2012 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

|               |                                       |                 |              |
|---------------|---------------------------------------|-----------------|--------------|
| <b>Page 2</b> | <b>Mark Scheme: Teachers' version</b> | <b>Syllabus</b> | <b>Paper</b> |
|               | <b>IGCSE – May/June 2012</b>          | <b>0607</b>     | <b>05</b>    |

| <b>Qu.</b> | <b>Answer</b>   | <b>Mark</b> | <b>Notes</b>                                 | <b>Comments</b>  |            |            |            |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
|------------|---|-------------|--|--|------------|------------|------------|----|----|-----------|------------|-------|-------|------------|------------|------------|------------|----------|-----------------|----|----|----|----|----|----|----------|-----------------|---|
| <b>1</b>   | (1, 2, 3)<br>(1, 3, 4)<br>(1, 4, 5) (2, 3, 5)<br>(1, 5, 6) (2, 4, 6)<br>(1, 6, 7) (2, 5, 7)   | <b>3</b>    | <b>B1</b> for 4 or 5<br><b>B2</b> for 6 or 7 | First two numbers can be swapped   |            |            |            |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
| <b>2</b>   | (1, 2, 3)<br>(1, 3, 4)  | <b>1</b>    | cao  |  |            |            |            |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
|            | (1, 2, 3)<br>(1, 3, 4)<br>(1, 4, 5) (2, 3, 5)   | <b>2</b>    | cao<br><b>B1</b> for any 3                   |  |            |            |            |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
|            | (1, 2, 3)<br>(1, 3, 4)<br>(1, 4, 5) (2, 3, 5)<br>(1, 5, 6) (2, 4, 6)  | <b>2</b>    | cao<br><b>B1</b> for any 5                   |  |            |            |            |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
|            | (1, 2, 3)<br>(1, 3, 4)<br>(1, 4, 5) (2, 3, 5)<br>(1, 5, 6) (2, 4, 6)<br>(1, 6, 7) (2, 5, 7) (3, 4, 7)<br>(1, 7, 8) (2, 6, 8) (3, 5, 8)  | <b>2</b>    | <b>B1</b> for any 10                         | Communication for systematic setting:<br>ascending order within each triple<br><b>and</b><br>first or last numbers in order (after repeating previous set) |            |            |            |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
| <b>3</b>   | <table border="1" style="width: 100%; text-align: center;"> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>9</td><td>12</td><td>16</td><td>20</td><td>25</td><td>30</td><td>36</td><td>42</td><td>49</td></tr> </table>  | 4           | 5  | 6  | 7          | 8          | 9          | 10 | 11 | 12        | 13         | 14    | 15    | 2          | 4          | 6          | 9          | 12       | 16              | 20 | 25 | 30 | 36 | 42 | 49 | <b>2</b> | <b>B1</b> for 3 | ft the numbers from their table unless wrongly counted. |
| 4          | 5   | 6           | 7  | 8  | 9          | 10         | 11         | 12 | 13 | 14        | 15         |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
| 2          | 4   | 6           | 9  | 12   | 16         | 20         | 25         | 30 | 36 | 42        | 49         |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
| <b>4</b>   | <table border="1" style="width: 100%; text-align: center;"> <tr><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td></tr> <tr><td><math>1 = 1^2</math></td><td><math>[4=] 2^2</math></td><td><math>3^2</math></td><td><math>4^2</math></td><td><math>[25=]5^2</math></td><td><math>36 = 6^2</math></td><td><math>[49=]7^2</math></td><td><math>[64=]8^2</math></td></tr> </table> | 3           | 5  | 7  | 9          | 11         | 13         | 15 | 17 | $1 = 1^2$ | $[4=] 2^2$ | $3^2$ | $4^2$ | $[25=]5^2$ | $36 = 6^2$ | $[49=]7^2$ | $[64=]8^2$ | <b>2</b> | <b>B1</b> for 3 |    |    |    |    |    |    |          |                 |   |
| 3          | 5   | 7           | 9  | 11   | 13         | 15         | 17         |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
| $1 = 1^2$  | $[4=] 2^2$  | $3^2$       | $4^2$  | $[25=]5^2$   | $36 = 6^2$ | $[49=]7^2$ | $[64=]8^2$ |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |
| <b>5</b>   | 21  | <b>2</b>    | <b>B1</b> $10^2$ soi                         | Communication:<br>Table extension<br>OR $\sqrt{100} = 10$ oe<br><b>and</b><br>$10 \times 2 = 20$ OR $10 + 11 = 21$   |            |            |            |    |    |           |            |       |       |            |            |            |            |          |                 |    |    |    |    |    |    |          |                 |   |

|               |                                       |                 |              |
|---------------|---------------------------------------|-----------------|--------------|
| <b>Page 3</b> | <b>Mark Scheme: Teachers' version</b> | <b>Syllabus</b> | <b>Paper</b> |
|               | <b>IGCSE – May/June 2012</b>          | <b>0607</b>     | <b>05</b>    |

|              |                            |          |                              |  |
|--------------|----------------------------|----------|------------------------------|--|
| <b>6 (a)</b> | Yes, $15^2 = 225$ soi      | <b>1</b> | <b>M1</b> 948.6...           | Accept Yes, 31 [integers]<br>OR Yes, $\sqrt{225}$ is a whole number<br>OR Yes, 225 is a square                                 |
|              | <b>(b)</b> Is not a square |          |                              | <b>2</b>   |
| <b>7 (a)</b> | 2401                       | <b>2</b> | <b>M1</b> for 49 or 49.5 soi | Accept $49^2$<br><br>Communication:<br>$98/2 = 49$ or $99/2 = 49.5$ <b>and</b><br>$49^2 = 2401$<br>OR correct table extension! |
|              | <b>(b)</b> 2450 cao        |          |                              | <b>2</b>   |
|              | Communication              | <b>1</b> |                              | Communication seen in questions <b>2, 5 or 7(a)</b>  |