

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2015 series**

**0607 CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/53**

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE<sup>®</sup>, Cambridge International A and AS Level components and some Cambridge O Level components.

**Abbreviations**

|      |                            |
|------|----------------------------|
| 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> (a)                       | 13 17  | <b>1</b>             |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | (b) $13 = 2^2 + 3^2$   | <b>1</b>             |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | $17 = 1^2 + 4^2$   | <b>1</b>             |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | (c) $1^2 + 10^2$   | <b>1</b>             |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
| <b>2</b> (a)                       | $49 + 576 = 625$ oe  | <b>2</b>             | <b>B1</b> for two correct squares  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | (b)  | <b>4</b>             | <b>B1</b> for 15<br><br><b>B2</b> for second column<br>(one for each cell)<br><b>B1</b> for third column |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td></td><td></td><td>41</td></tr> <tr><td></td><td></td><td>61</td></tr> <tr><td></td><td>84</td><td>85</td></tr> <tr><td>15</td><td>112</td><td></td></tr> </table>  |                      |  | 41   |  |    | 61 |  | 84 | 85 | 15 | 112 |     |  |     |  |  |  |
|                                    |  |                      | 41   |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    |  |                      | 61   |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | 84   | 85                   |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
| 15                                 | 112  |                      |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
| (c) equal to the sum oe            | <b>1</b>   | <b>C</b> opportunity |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
| (d) 29, 420                        | <b>1</b>   | <b>C</b> opportunity |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
| <b>3</b> (a) (i)                   | 8, 15, 17  | <b>1</b>             |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | (ii) $64 + 225 = 289$ oe   | <b>2</b>             | <b>B1</b> for one correct square   |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | (b)  | <b>5</b>             | <b>B2</b> for one correct cell<br><br><b>B1</b> for each of the other three<br><br><b>C</b> opportunity  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>[8]</td><td>[15]</td><td>[17]</td></tr> <tr><td></td><td>35</td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>20</td><td></td><td>101</td></tr> <tr><td></td><td>143</td><td></td></tr> </table> | [8]                  | [15]   | [17] |  | 35 |    |  |    |    | 20 |     | 101 |  | 143 |  |  |  |
|                                    | [8]  | [15]                 | [17]   |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | 35   |                      |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    |  |                      |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
| 20                                 |  | 101                  |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
|                                    | 143  |                      |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |
| (c) The square is twice the sum oe | <b>1</b>   |                      |  |      |  |    |    |  |    |    |    |     |     |  |     |  |  |  |

|        |   |             |          |
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| Question  | Answer                                       | Mark | Part Marks                                   |
|---|--|------|--|
| (d)   | $(2\sqrt{x})^2 = 4x$<br>$x - 1 + x + 1 = 2x$ | 2    | <b>B1</b> for one statement seen or implied. |
| Communication seen in one of <b>2(c)</b> , <b>2(d)</b> or <b>3(b)</b> |  | 1    |  |