
CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/52

Paper 5 (Core)

May/June 2016

MARK SCHEME

Maximum Mark: 24

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.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2016 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.

| | | | |
|--------|---------------------------------|----------|-------|
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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 (a) | An example and illustration of last – first + 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| | (b) $\frac{\text{first+last}}{2}$ oe | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2 (a) | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 40%;">Sequence</th> <th style="width: 10%;">n</th> <th style="width: 15%;">Median</th> <th style="width: 15%;">Sum</th> </tr> </thead> <tbody> <tr> <td>3, 4, 5, 6, 7, 8, 9</td> <td>7</td> <td>6</td> <td>42</td> </tr> <tr> <td>7, 8</td> <td>2</td> <td>7.5</td> <td>15</td> </tr> <tr> <td>20, 21, 22, ..., 40</td> <td>21</td> <td>30</td> <td>630</td> </tr> <tr> <td>5, 6, 7</td> <td>3</td> <td>6</td> <td>18</td> </tr> </tbody> </table> | Sequence | n | Median | Sum | 3, 4, 5, 6, 7, 8, 9 | 7 | 6 | 42 | 7, 8 | 2 | 7.5 | 15 | 20, 21, 22, ..., 40 | 21 | 30 | 630 | 5, 6, 7 | 3 | 6 | 18 | 5 | B1 for first two rows B1 for each of the last four rows C opportunity |
| | Sequence | n | Median | Sum | | | | | | | | | | | | | | | | | | | |
| | 3, 4, 5, 6, 7, 8, 9 | 7 | 6 | 42 | | | | | | | | | | | | | | | | | | | |
| | 7, 8 | 2 | 7.5 | 15 | | | | | | | | | | | | | | | | | | | |
| | 20, 21, 22, ..., 40 | 21 | 30 | 630 | | | | | | | | | | | | | | | | | | | |
| 5, 6, 7 | 3 | 6 | 18 | | | | | | | | | | | | | | | | | | | | |
| (b) multiply | 1 | | | | | | | | | | | | | | | | | | | | | | |
| (c) odd [number] | 1 | | | | | | | | | | | | | | | | | | | | | | |
| (d) ends in .5 oe | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 40%;">Sequence</th> <th style="width: 10%;">n</th> <th style="width: 15%;">Median</th> <th style="width: 15%;">Sum</th> </tr> </thead> <tbody> <tr> <td>4, 5, 6</td> <td>3</td> <td>5</td> <td>15</td> </tr> <tr> <td>7, 8, 9, 10</td> <td>4</td> <td>8.5</td> <td>34</td> </tr> <tr> <td>4, 5, 6, 7, 8, 9, 10 or 24, 25</td> <td>7 or 2</td> <td>7 or 24.5</td> <td>49</td> </tr> </tbody> </table> | Sequence | n | Median | Sum | 4, 5, 6 | 3 | 5 | 15 | 7, 8, 9, 10 | 4 | 8.5 | 34 | 4, 5, 6, 7, 8, 9, 10 or 24, 25 | 7 or 2 | 7 or 24.5 | 49 | 5 | 1st row: B1 2nd row: B1 for sequence B1 for median 3rd row: B1 for sequence B1 for median | | | | |
| | Sequence | n | Median | Sum | | | | | | | | | | | | | | | | | | | |
| | 4, 5, 6 | 3 | 5 | 15 | | | | | | | | | | | | | | | | | | | |
| | 7, 8, 9, 10 | 4 | 8.5 | 34 | | | | | | | | | | | | | | | | | | | |
| | 4, 5, 6, 7, 8, 9, 10 or 24, 25 | 7 or 2 | 7 or 24.5 | 49 | | | | | | | | | | | | | | | | | | | |
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| Question | Answer | Mark | Part Marks |
|--|--|--------|--|
| 4 | 485 500 | 2 | B1 500 or 971 seen C opportunity |
| 5 | 38, 39 8, 9, 10, 11, 12, 13, 14 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 | 3 | B1 for each sequence or B1 for 2×38.5 B1 for 7×11 or 11×7 |
| 6 (a) | 1, 2, 4, 8, 16 oe median not an integer when even number of terms oe | 1 1 | |
| (b) | 32 or 64 or 128, etc | 1 | |
| Communication seen in one of 2(a), 3, 4, 5 or 6(b) | | 1 | |