**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**

International General Certificate of Secondary Education

# MARK SCHEME for the May/June 2009 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.

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**M** marks are given for a correct method.
**A** marks are given for an accurate answer following a correct method.
**B** marks are given for a correct statement or step.
**D** marks are given for a clear and appropriately accurate drawing.
**P** marks are given for accurate plotting of points.
**E** marks are given for correctly explaining or establishing a given result.
**C** marks are given for clear communication.

**Abbreviations**

cao     correct answer only
cso     correct solution only
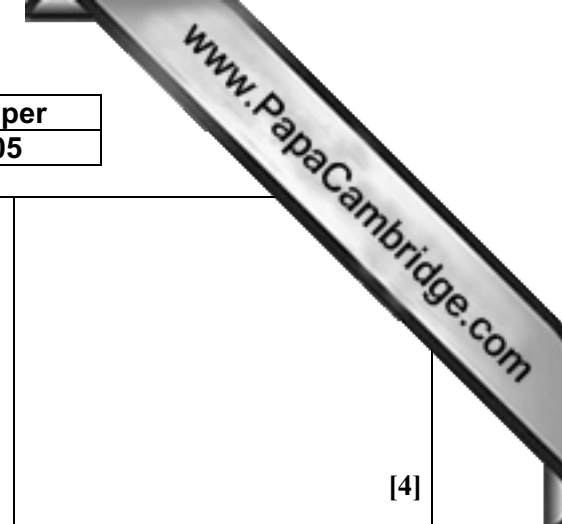ft      follow through
oe      or equivalent
soi     seen or implied
ww      without working
www     without wrong working

| Question | | Answer | Mark | Notes | Comments |
|----------|---|--------|------|-------|----------|
| 1 | | (see table below) | 7 | **B7** | 1 for each shaded square |

| Number of discs | Last disc | | Number of discs | Last disc | | Number of discs | Last disc |
|-----------------|-----------|---|-----------------|-----------|---|-----------------|-----------|
| 2 | 2 | | 9 | 2 | | 17 | 2 |
| 3 | 2 | | 10 | 4 | | 18 | 4 |
| 4 | 4 | | 11 | 6 | | 19 | 6 |
| 5 | 2 | | 12 | 8 | | 20 | 8 |
| 6 | 4 | | 13 | 10 | | | |
| 7 | 6 | | 14 | 12 | | | |
| 8 | 8 | | 15 | 14 | | | |
| | | | 16 | 16 | | | |

[7]

| Question | | Answer | Mark | Notes | Comments |
|----------|---|--------|------|-------|----------|
| 2 | | 64, 128 | 2 | **B1** for each | [2] |
| 3 | (a) | 2 | 1 | **B1** | |
| | (b) | 30 | 1 | **B1** | |
| | (c) | 8 | 2 | **B2** OR **M1** for 2 (68 – their 64) **A1** correct evaluation | |
| | (d) | 126 | 1 | **B1** | |
| | (e) | 144 | 2 | **B2** OR **M1** for 2(200 – their 128) or 256 – 2(256–200) oe **A1** correct evaluation | ft with 2 × their 128 for 256 [7] |

| 4 | (a) | 23 | 2 | **B2**<br>OR<br>**M1** recognise sequence continues in 2's | |
|---|---|---|---|---|---|
| | (b) | 44 | 2 | **B2**<br>OR<br>**M1** for 24/2 or better     **[4]** | |
| 5 | (a) | (10) 8, 6, 4, 2, 9, 5, 1, 3 (7) | 1 | **B1** | Condone one omission or error |
| | (b) | corresponding terms add to 11 | 1 | **B1** | Accept a diagram indicating this |
| | (c) | 325 | 1 | **B1**     **[3]** | |
| | | | 1 | **C1** for communication by:<br>   Showing strategy<br>   Comparing<br>   Checking | Award mark for one of:<br>Strategy shown for  Question 2<br>                   Question 3(c)<br>                   Question 3(e)<br>                   Question 4<br>Indicating comparison of corresponding terms in Question 5(b)<br>Checking a result.     **[1]** |
| | | | | | **[Total: 24]** |