



CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/23

Paper 2 (Extended)

October/November 2016

MARK SCHEME

Maximum Mark: 40

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 October/November 2016 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.

bestexamhelp.com

| | | | |
|---------------|--|-----------------|--------------|
| Page 2 | Mark Scheme | Syllabus | Paper |
| | Cambridge IGCSE – October/November 2016 | 0607 | 23 |

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 | -1 | 1 | |
| 2 | 64 | 2 | B1 for 20 soi by 10 |
| 3 (a) | 0.008 | 1 | |
| (b) | $\frac{15}{28}$ | 2 | M1 for $\frac{3}{7} \times \frac{5}{4}$ |
| 4 | 80 | 3 | M1 for $(5 - 2)180$ oe M1 for $6x + 60 = \textit{their} 540$ or better |
| 5 | C, S, S, N | 3 | B2 for 3 correct or B1 for 2 correct |
| 6 (a) | 4 | 1 | |
| (b) | 1 | 1 | |
| (c) | 1.37 | 2 | M1 for Σxf soi by 137 |
| 7 | $[x =] 1\frac{1}{2}, [y =] -2$ | 3 | M1 for correctly eliminating one variable A1 for either If 0 scored, SC1 for 2 values that satisfy one of the original equations |
| 8 (a) | Negative | 1 | |
| (b) | 12 | 2 | M1 for $14 = 32 - 1.5x$ |
| 9 (a) | 40 | 1 | |
| (b) | 115 | 2 | B1 for $\angle AEC$ or $\angle ADC = 65$ |
| 10 (a) | 2 | 1 | |
| (b) | 1.8 oe | 2 | M1 for $\log 3^2$ or $\log \frac{a}{5}$ |

| | | | |
|---------------|--|-----------------|--------------|
| Page 3 | Mark Scheme | Syllabus | Paper |
| | Cambridge IGCSE – October/November 2016 | 0607 | 23 |

| Question | Answer | Mark | Part Marks |
|-----------------|--|-------------|---|
| 11 | $x < 7$ | 3 | M2 for $2 + 12 > 6x - 4x$ oe or B1 for $6x - 12$ If 0 scored, SC1 for 'correct' solution after incorrect expansion |
| 12 (a) | $\frac{1}{2}\mathbf{a}$ | 1 | |
| (b) | $\frac{5}{8}\mathbf{a} + \frac{3}{8}\mathbf{c}$ or $\frac{5\mathbf{a} + 3\mathbf{c}}{8}$ | 3 | B1 for $\overrightarrow{AC} = -\mathbf{c} + \mathbf{a}$ or $\overrightarrow{CA} = -\mathbf{a} + \mathbf{c}$ M1 for $\overrightarrow{OQ} = \overrightarrow{OC} + \frac{5}{8}\overrightarrow{CA}$ oe |
| 13 (a) | $6\sqrt{2}$ | 2 | M1 for $\times \frac{\sqrt{2}}{\sqrt{2}}$ or B1 for $\sqrt{72}$ |
| (b) | $37 - 20\sqrt{3}$ | 3 | B2 for $a - 20\sqrt{3}$ or $37 - b\sqrt{3}$ or M1 for $25 - 10\sqrt{3} - 10\sqrt{3} + (2\sqrt{3})^2$ |