



**Cambridge Assessment International Education**  
Cambridge International General Certificate of Secondary Education

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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/23**

Paper 2 (Extended)

**October/November 2017**

MARK SCHEME

Maximum Mark: 40

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| <p><b>Published</b></p> |
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**MARK SCHEME NOTES**

The following notes are intended to aid interpretation of mark schemes in general, but individual mark schemes may include marks awarded for specific reasons outside the scope of these notes.

**Types of mark**

- M      Method marks, awarded for a valid method applied to the problem.
- A      Accuracy mark, awarded for a correct answer or intermediate step correctly obtained. For accuracy marks to be given, the associated Method mark must be earned or implied.
- B      Mark for a correct result or statement independent of Method marks.

When a part of a question has two or more ‘method’ steps, the M marks are in principle independent unless the scheme specifically says otherwise; and similarly where there are several B marks allocated. The notation ‘**dep**’ is used to indicate that a particular M or B mark is dependent on an earlier mark in the scheme.

**Abbreviations**

|      |                            |
|------|----------------------------|
| awrt | answers which round to     |
| cao  | correct answer only        |
| dep  | dependent                  |
| FT   | follow through after error |
| isw  | ignore subsequent working  |
| nfwf | not from wrong working     |
| oe   | or equivalent              |
| rot  | rounded or truncated       |
| SC   | Special Case               |
| soi  | seen or implied            |

| Question | Answer                                 | Marks | Partial Marks                                                                                                                  |
|----------|----------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------|
| 1        | 53                                     | 1     |                                                                                                                                |
| 2        | $\begin{pmatrix} 3 \\ 6 \end{pmatrix}$ | 2     | <b>B1</b> for each component                                                                                                   |
| 3        | 72                                     | 2     | <b>M1</b> for $\frac{180-36}{2}$                                                                                               |
| 4        | 18                                     | 2     | <b>M1</b> for $\frac{144}{8}$ oe                                                                                               |
| 5        | 0.35                                   | 3     | <b>M2</b> for $\frac{3.9[0]-4 \times 0.45}{6}$<br>or <b>M1</b> for $3.9[0]-4 \times 0.45$                                      |
| 6(a)     | $5.8 \times 10^4$                      | 1     |                                                                                                                                |
| 6(b)     | $8.09 \times 10^{-3}$                  | 1     |                                                                                                                                |
| 7        | 18                                     | 3     | <b>M2</b> for $\frac{360}{180-160}$ oe<br>or <b>M1</b> for $180-160$                                                           |
| 8        | 3                                      | 3     | <b>M2</b> for $\frac{90}{45-15}$<br>or <b>M1</b> for correct first step                                                        |
| 9        | 40 and 52                              | 2     | <b>B1</b> for 92                                                                                                               |
| 10       | 8, -3                                  | 3     | <b>M2</b> for $(x-8)(x+3)$ oe<br>or <b>M1</b> for $(x+a)(x+b)$ where $ab = -24$ or<br>$a+b = -5$                               |
| 11       | $8\sqrt{2}$                            | 2     | <b>M1</b> for $\times \frac{\sqrt{8}}{\sqrt{8}}$ oe                                                                            |
| 12       | 2                                      | 2     | <b>M1</b> for $\frac{4}{3}\pi r^3 = \frac{32}{3}\pi$ oe                                                                        |
| 13       | $[y =] \frac{1}{2}x + \frac{5}{2}$     | 4     | <b>B1</b> for (3, 4) seen<br><b>B1</b> for $-\frac{8}{4}$ oe seen<br><b>M1</b> for $\text{grad} = \frac{-1}{\text{their}(-2)}$ |

| Question | Answer                                                          | Marks | Partial Marks                                                                                                                                                            |
|----------|-----------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14       | $x = \frac{5A}{2A-3}$ or $x = \frac{-5A}{3-2A}$<br>final answer | 3     | <b>M1</b> for correctly eliminating fractions<br><b>M1</b> for correctly collecting <i>their</i> $x$ terms<br><b>M1</b> for correct final division of <i>their</i> terms |
| 15       | $5(x-5y)(x+5y)$<br>final answer                                 | 3     | <b>M2</b> for $(5x-25y)(x+5y)$ or $(5x+25y)(x-5y)$<br>or <b>M1</b> for one correct factor identified                                                                     |
| 16       | 0.225 oe                                                        | 3     | <b>M2</b> for $0.3 \times 0.4 + 0.7 \times 0.15$ oe<br>or <b>M1</b> for $0.3 \times 0.4$ or $0.7 \times 0.15$                                                            |