

| Notes | Mark Scheme                    | Syllabus | Paper |
|-------|--------------------------------|----------|-------|
|       | IGCSE Examinations – June 2002 | 0580     |       |

#### TYPES OF MARK

Most of the marks (those without prefixes, and 'B' marks) are given for accurate results, drawings or statements.

'M' marks are awarded for any correct method applied to the appropriate numbers.

'B' marks are given for a correct statement or step.

'A' marks are for accurate results or statements but are awarded only if the relevant 'M' marks have been earned.

#### ABBREVIATIONS

The following abbreviations may be used in the Mark Scheme:

|        |  |
|--------|--|
| a.r.t. | Anything rounding to                           |
| b.o.d. | Benefit of doubt given to the candidate        |
| c.a.o. | Correct answer only (i.e. no 'follow through') |
| e.e.o. | Each error or omission                         |
| o.e.   | Or equivalent                                  |
| SC     | Special case                                   |
| s.o.i. | Seen or implied                                |
| w.w.   | Without working                                |
| w.w.w. | Without wrong working                          |
| √      | Work followed through: no further error made   |

**JUNE 2002**

**INTERNATIONAL GCSE**

**MARK SCHEME**

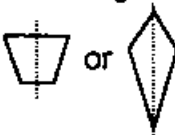

**MAXIMUM MARK : 56**

**SYLLABUS/COMPONENT : 0580/1; 0581/1**

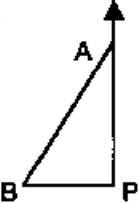
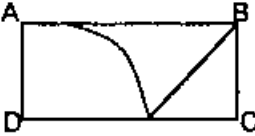
**MATHEMATICS**  
**(Structured Questions)**



|        |                                |          |       |
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| * indicates that it is necessary to look in the working following a wrong answer |   |               |  |
|--|---|---------------|--|
| 1.   | -1  | 1             | not 20   |
| 2.   | (a) 0.35<br>(b) 1.27  | 1<br>1        | zero may be omitted if decimal point is clear  |
| 3.   | $4y(2 - 3t)$  | 2             | <b>B1</b> for $4(2y - 3ty)$ or $y(8 - 12t)$ or $2y(4 - 6t)$ or $2(4y - 6ty)$                                 |
| 4.   | (a) =<br>(b) >  | 1<br>1        |  |
| 5.   | (a) 0.005<br>(b) $5 \times 10^{-3}$   | 1<br>1√       | Allow 1/200<br>Not $5^{-3}$  |
| 6.   | 1.92  | 2*            | <b>M1</b> for $8\% \times 24$  |
| 7.   | $2k^2$  | 2             | $ak^2$ , $2k^n$ (where a,n are numbers) score 1  |
| 8.   | 275000 285000   | 1,1           | <b>B1</b> both correct and reversed  |
| 9.   | 7600  | 3*            | <b>M1</b> $12800 \times 0.59$ <b>A1</b> 7552 <b>B1</b> √   |
| 10.  | (a) parallelogram<br>(b)  or  | 1<br>2        | condone poor spelling<br><b>B1</b> accurate shape no line of symmetry or poor shape with line of symmetry    |
| 11.  | 360   | 3*            | <b>M1</b> $\frac{1}{2} \times 6 \times 5$ <b>M1</b> area $\Delta \times 24$                                  |
| 12.  | (a) $\begin{pmatrix} 3 \\ 2 \end{pmatrix}$<br>(b) <b>BC</b> on grid<br>(-2, -1)   | 1<br>1*<br>1√ | Not a gradient or a coordinate<br>line drawn to coordinate (-2, -1) from B<br>their C must be labelled for √ |
| 13.  | (a) 40<br>$\frac{3}{5}$<br>(b) 12.6   | 1<br>1√<br>2* | Not a decimal<br><b>M1</b> for $8.4 \div$ their fraction in (a)  |

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|     |  |                   |   |
|-----|--|-------------------|---|
| 14. | (a) 123, 132, 213<br>312, 321<br>(b) $\frac{1}{3}$<br>0  | 2<br><br>1√<br>1√ | <b>B1</b> -1 eeo<br><br>Allow 2/6, 0/6<br><br><b>SC1</b> 2/5 and 0/5  |
| 15. | c = 2 d = 9  | 4*                | <b>M1</b> for multiplication and subtraction <b>A1</b> first correct value<br><b>M1</b> for substitution <b>A1</b> second value   |
| 16. | (a) <br>(b) 4510  | 1<br><br>3*       | Sketch only required but evidence of 90° needed<br><br><b>M1</b> for $\text{BAP} = 20^\circ$ seen anywhere <b>M1</b> $\cos \text{BAP}^\circ = \frac{\text{AP}}{4800}$                             |
| 17. | (a) 90°<br>(b) 37.5°   | 1<br>3*           | <b>M1</b> for 90 + <b>M1</b> (5 + 7)  |
| 18. | <br>(b) shading | 1<br>2<br><br>1   | complete circular arc, centre D, radius 6cm ± 1mm<br><b>B1</b> construction arcs<br><b>B1</b> angle bisector of B, ± 1° or 4.5 ± 0.2 cm along CD<br><br>between arc, bisector, AB and possibly CD |
| 19. | (a) 101<br>(b) 658   | 2*<br>3*          | <b>M1</b> $\pi \times 8 \times \frac{1}{2}$ or 1 or 2 or 4 <b>SC1</b> 165<br><b>M1</b> $\pi \times 8^2 \times \frac{1}{2}$ or 1 or 2 or 4 <b>M1</b> 16×16 + area involving $\pi$                  |
|     | TOTAL  | 56                |   |