

**June 2003**

INTERNATIONAL GCSE

**MARK SCHEME**

**MAXIMUM MARK: 56**

**SYLLABUS/COMPONENT: 0580/01, 0581/01**

**MATHEMATICS**

**Paper 1 (Core)**



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\* indicates that it is necessary to look in the working following a wrong answer.

|    |                                                     |                    |                                                                                                                                                                                                        |
|----|-----------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | (a) 19.55249(345)<br>(b) 19.55                      | 1<br>1 ✓           |                                                                                                                                                                                                        |
| 2  | (a) 3.3 to 3.7<br>(b) - 0.9                         | 1<br>1 ✓           | Allow negative values<br>2.6 - I(a)I                                                                                                                                                                   |
| 3  | (a) $\frac{33}{50}$ 67% 0.68<br>(b) $\frac{17}{25}$ | 1<br>1             | Allow 0.66, 0.67, 0.68 o.e.                                                                                                                                                                            |
| 4  | 42                                                  | 2*                 | <b>M1</b> 72 ÷ 12                                                                                                                                                                                      |
| 5  | 781000                                              | 2*                 | <b>M1</b> for 550 000 x 1.42                                                                                                                                                                           |
| 6  | 366                                                 | 2*                 | <b>M1</b> for "97.60" x 3.75                                                                                                                                                                           |
| 7  | $\frac{4}{9}$                                       | 2*                 | <b>M1</b> for $\frac{9}{4}$ or 0.44....., $2\frac{1}{4}$ , $\frac{2}{3}$ , $\frac{2}{3}^2$                                                                                                             |
| 8  | (a) - 30 c.a.o.<br>(b) v(4u – 3)                    | 1<br>1             | c.a.o.                                                                                                                                                                                                 |
| 9  | $\frac{1}{2}$                                       | 3*                 | <b>M1</b> 6 – 3x<br><b>M1</b> x + 3x = 6 – 4                                                                                                                                                           |
| 10 | (a) 0.004<br>(b) 4 x 10 <sup>-3</sup>               | 2*<br>1 ✓          | <b>M1</b> figs 2 : 500000 or figs 4 in answer                                                                                                                                                          |
| 11 | a = 3, b = -1                                       | 3*                 | <b>M1</b> adding <b>or</b> x 2 <sup>nd</sup> equation by 3 and subtracting<br><br><b>A1 A1</b> o.e. (Rearrange <b>and</b> substitute scores M1)<br><br>Working essential if only one answer is correct |
| 12 | (a) 88 c.a.o.<br>(b) 85.5, 86.5                     | 1<br>1, 1          | Not 88.0<br><b>B1</b> both correct and reversed                                                                                                                                                        |
| 13 | (a) 20 05<br><br>(b) (i) 0.4<br>(ii) 24             | 1<br><br>2*<br>1 ✓ | Allow 20:05, 8.05 <b>pm</b> . Not 20.5 or 20h5m<br><br><b>M1</b> 30 ÷ 75<br>(i) × 60                                                                                                                   |

| Page 2 | Mark Scheme                    | Syllabus  | Paper |
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|       |                                                      |     |                                                                                                                         |
|-------|------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------|
| 14    | (a) $\frac{3+4}{6} = \frac{7}{6}$                    | 2*  | M1 for first term o.e.                                                                                                  |
|       | (b) $\frac{6}{5} \times \frac{7}{4} = \frac{21}{10}$ | 2*  | M1 for improper fractions                                                                                               |
| 15    | (a) (i) 28                                           | 2*  | M1 for $\frac{1}{2} \times 8 \times 7$                                                                                  |
|       | (ii) 176                                             | 2 ✓ | M1 for $4 \times (i) + 8^2$ A1 ✓                                                                                        |
|       | (b) pyramid                                          | 1   |                                                                                                                         |
| 16    | (a) 90                                               | 1   |                                                                                                                         |
|       | (b) 7.71                                             | 2*  | M1 $\sin 40 = PB/12$ or $\frac{12}{\sin(a)} = \frac{PB}{\sin 40}$                                                       |
|       | (c) 113                                              | 2*  | M1 $\pi \times 6^2$                                                                                                     |
| 17    | (a) 9.59                                             | 2*  | M1 $8.3^2 + 4.8^2$                                                                                                      |
|       | (b) 210                                              | 3*  | M1 $\tan x = \frac{4.8}{8.3}$ M1 $180 + x$ at P<br>If sin or cos used then allow ✓ from (a). NO marks for scale drawing |
| 18    | (a) (i) 35                                           | 1   |                                                                                                                         |
|       | (ii) 25                                              | 1 ✓ | 60 – (i)                                                                                                                |
|       | (b) similar                                          | 1   |                                                                                                                         |
|       | (c) 11(.0)                                           | 2*  | M1 $\frac{16.6}{8.3} = \frac{CX}{5.5}$ o.e. Not 11.1<br>or M1 for $\frac{16.6}{\sin 120} = \frac{CX}{\sin 35}$          |
| TOTAL |                                                      | 56  |                                                                                                                         |