

**MARK SCHEME for the May/June 2011 question paper  
for the guidance of teachers**

**0581 MATHEMATICS**

**0581/13**

Paper 1 (Core), maximum raw mark 56

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.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2011 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

|               |                                       |                 |              |
|---------------|---------------------------------------|-----------------|--------------|
| <b>Page 2</b> | <b>Mark Scheme: Teachers' version</b> | <b>Syllabus</b> | <b>Paper</b> |
|               | <b>IGCSE – May/June 2011</b>          | <b>0581</b>     | <b>13</b>    |

### Abbreviations

|     |                            |
|-----|----------------------------|
| cao | correct answer only        |
| cso | correct solution only      |
| dep | dependent                  |
| ft  | follow through after error |
| isw | ignore subsequent working  |
| oe  | or equivalent              |
| SC  | Special Case               |
| www | without wrong working      |

| Qu.          | Answers                                 | Mark     | Part Marks                                                                                                            |
|--------------|-----------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------|
| <b>1 (a)</b> | 10 073                                  | <b>1</b> |                                                                                                                       |
| <b>(b)</b>   | $13 + 20 - 2 = 31$                      | <b>1</b> | Accept 20 seen with answer 31                                                                                         |
| <b>2 (a)</b> | 32                                      | <b>1</b> |                                                                                                                       |
| <b>(b)</b>   | 3                                       | <b>1</b> |                                                                                                                       |
| <b>3</b>     | 14 30 or (0) 2:30 pm                    | <b>1</b> |                                                                                                                       |
|              | June 4 <sup>th</sup> oe                 | <b>1</b> |                                                                                                                       |
| <b>4</b>     | $2y(x - 2z)$                            | <b>2</b> | <b>B1</b> for $y(2x - 4z)$ or $2(xy - 2yz)$                                                                           |
| <b>5 (a)</b> | <                                       | <b>1</b> |                                                                                                                       |
| <b>(b)</b>   | <                                       | <b>1</b> |                                                                                                                       |
| <b>6</b>     | $(x =) 3(y - 5)$ oe final answer        | <b>2</b> | <b>M1</b> for correct first move<br>$y - 5 = \frac{x}{3}$ or $3y = x + 15$<br><b>M1</b> for their correct second move |
| <b>7 (a)</b> | 0                                       | <b>1</b> |                                                                                                                       |
| <b>(b)</b>   | 2                                       | <b>1</b> |                                                                                                                       |
| <b>8 (a)</b> | $\begin{pmatrix} -2 \\ 1 \end{pmatrix}$ | <b>1</b> |                                                                                                                       |
| <b>(b)</b>   | Point marked at (1, -1)                 | <b>1</b> |                                                                                                                       |
| <b>9 (a)</b> | 21                                      | <b>1</b> |                                                                                                                       |
| <b>(b)</b>   | 27                                      | <b>1</b> |                                                                                                                       |
| <b>10</b>    | 10.7 or 10.69(.....) www                | <b>2</b> | <b>M1</b> for $\frac{AC}{12} = \cos 27$ or better                                                                     |
| <b>11</b>    | 7.94 or 7.937(.....) www                | <b>3</b> | <b>M2</b> for $\sqrt{(12^2 - 9^2)}$ or<br><b>M1</b> for $12^2 = x^2 + 9^2$ oe or better                               |

| Page 3 | Mark Scheme: Teachers' version | Syllabus | Paper |
|--------|--------------------------------|----------|-------|
|        | IGCSE – May/June 2011          | 0581     | 13    |

|         |                                                       |   |                                                                                                                                   |
|---------|-------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------|
| 12 (a)  | $1.646 \times 10^7$                                   | 1 |                                                                                                                                   |
| (b)     | $3.32 \times 10^{-2}$                                 | 2 | <b>B1</b> for $0.0332$ seen or $3.3 \times 10^{-2}$ as answer or <b>B1</b> for $3.32 \times 10^k$                                 |
| 13 (a)  | 36                                                    | 1 |                                                                                                                                   |
| (b)     | Correct working                                       | 2 | <b>M1</b> for $\frac{7}{6}$ oe improper fraction<br><b>M1</b> for $\frac{12}{21} = \frac{4}{7}$ oe or visible cancelling          |
| 14 (a)  | (0).55                                                | 1 |                                                                                                                                   |
| (b)     | 250                                                   | 2 | <b>M1</b> for $35\ 000 \div 140$ or <b>SC1</b> for figs 25                                                                        |
| 15 (a)  | 67                                                    | 1 |                                                                                                                                   |
| (b)     | 0.00304                                               | 1 |                                                                                                                                   |
| (c)     | 56.35                                                 | 1 |                                                                                                                                   |
| 16      | $(x =) 5$ $(y =) -1$                                  | 3 | <b>M1</b> for consistent multiplication and add/subtract as appropriate.<br><b>A1</b> for 1 correct answer.                       |
| 17 (a)  | Reflex                                                | 1 |                                                                                                                                   |
| (b) (i) | Drawing of a trapezium                                | 1 | Ignore labels and no arrows as long as a reasonable sketch.                                                                       |
| (ii)    | Trapezium                                             | 1 |                                                                                                                                   |
| 18      | 127.31 cao                                            | 3 | <b>M1</b> for $120 \times 1.03^2$<br><b>A1</b> for 127.308<br>If <b>M0</b> award <b>SC2</b> for 7.31 or 247.31                    |
| 19 (a)  | 17                                                    | 1 | Allow $-17$                                                                                                                       |
| (b) (i) | $-5.5$                                                | 2 | <b>M1</b> for $(-12 + -13 + -10 + 4 + 4 + -6) \text{ soi} \div 6$                                                                 |
| (ii)    | $-8$                                                  | 2 | <b>M1</b> for method of finding mid-value                                                                                         |
| (iii)   | 4                                                     | 1 |                                                                                                                                   |
| 20 (a)  | Straight ruled line from (08 10, 200) to (08 30, 900) | 1 |                                                                                                                                   |
| (b)     | 5                                                     | 1 |                                                                                                                                   |
| (c)     | 1.8                                                   | 4 | <b>M1</b> for total distance $\div$ total time<br><b>M1</b> for converting time to hours<br><b>M1</b> for converting metres to km |