

## **MARK SCHEME for the May/June 2013 series**

### **0607 CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/21**

Paper 2 (Extended), maximum raw mark 40

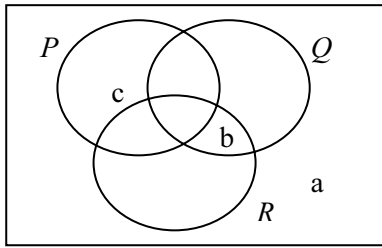
This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, 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 May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

| Page 2 | Mark Scheme           | Syllabus | Paper |
|--------|-----------------------|----------|-------|
|        | IGCSE – May/June 2013 | 0607     | 21    |

|   |   |     |   |
|---|---|-----|---|
| 1 | $1.387 \times 10^9$   | 2   | <b>B1</b> for figs 1387 or $12.1 \times 10^8$ or $0.177 \times 10^9$  |
| 2 | (a) (1, 3)  | 1   |   |
|   | (b) $-\frac{2}{3}$ o.e. –0.667 or better  | 2   | <b>M1</b> for clear attempt at $y$ increase / $x$ increase  |
|   | (c) (i) $y = \frac{3}{2}x + 4$  | 2FT | <b>M2FT</b> for $y = (-1/\text{their (b)})x + 4$<br><b>M1</b> for $m = -1/\text{their (b)}$   |
|   | (ii) $-\frac{8}{3}$ o.e. –2.67 or better  | 1FT | <b>FT</b> from <i>their (c)(i)</i> but not from $y = kx$  |
| 3 | $x = 3$<br>$y = -2$   | 3   | <b>M1</b> for correct equation in 1 variable<br><b>A1</b> for each answer   |
| 4 | (a) 0.39, (0.2), 0.18, 0.15, 0.08   | 2   | <b>B1</b> for any 3 seen  |
|   | (b) 3600  | 2   | <b>M1</b> for $0.2 \times 18\,000$ o.e.   |
| 5 | (a) $115^\circ$   | 2   | <b>B1</b> for reflex angle $AOD = 230^\circ$ or cyclic quad drawn with angle $65^\circ$   |
|   | (b) $65^\circ$  | 2FT | <b>FT</b> $180 - \text{their (a)}$<br><b>B1</b> for angle $ACD = \text{their (a)} (=x)$   |
| 6 | U  | 3   | 1 for each correctly placed   |
| 7 | (a) (i) 3   | 1   |   |
|   | (ii) –2   | 1   |   |
|   | (b) 12.5  | 2   | <b>B1</b> for $\log 5^2$ or $\log 2p$ or $\log k/2$ seen  |
| 8 | 7.5   | 4   | <b>M1</b> for $\frac{160}{360} \times \pi \times r^2$<br><b>M1</b> for their sector $= \pi \times 25$<br><b>M1</b> for elimination of $\pi$ |
| 9 | (a) $7\sqrt{2}$   | 2   | <b>B1</b> for $5\sqrt{2}$ or $2\sqrt{2}$ seen   |
|   | (b) $28 + 10\sqrt{3}$   | 2   | <b>B1</b> for $25 + 5\sqrt{3} + 5\sqrt{3} + \sqrt{3} \times \sqrt{3}$   |

|               |                              |                 |              |
|---------------|------------------------------|-----------------|--------------|
| <b>Page 3</b> | <b>Mark Scheme</b>           | <b>Syllabus</b> | <b>Paper</b> |
|               | <b>IGCSE – May/June 2013</b> | <b>0607</b>     | <b>21</b>    |

|           |  |  |  |
|-----------|--|--|--|
| <b>10</b> | $\frac{2by + 3y}{a - b}$ o.e.                      | <b>3</b>                                 | <b>B1</b> for $bx + 2by$<br><b>M1</b> for correctly isolating $x$ terms<br><b>M1</b> for correctly factorising and dividing by bracket |
| <b>11</b> | $a + b$<br><br>$-\frac{1}{2}a - b$<br><br>$2b - a$ | <b>1</b><br><br><b>1</b><br><br><b>1</b> | All answers must be in the form $pa + qb$  |