UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS International General Certificate of Secondary Education

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for the guidance of teachers

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/02 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 must be read in conjunction with the question papers and the report on the examination.

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| | | www.xtrapapers.co |
|--------|--------------------------------|-------------------|
| Page 2 | Mark Scheme: Teachers' version | Syllabus |
| | IGCSE – October/November 2010 | 0607 |

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|---|-----|---|----------|--|
| 1 | (a) | $5\sqrt{3}$ | B2 | Award M1 for evidence of $\sqrt{25 \times 3}$ [3] |
| | (b) | 3 | B1 | [3] 60 |
| 2 | | c(2a-5b) + 3(2a-5b) or 2a(c+3) - 5b(c+3) | M1 | |
| | | (2a-5b)(c+3) www2 | A1 | [2] |
| 3 | | $\frac{a-1}{6-2} = \frac{3}{2}$ oe For correctly setting out the gradient | M1 | $\frac{\text{Alternative solution}}{y = \frac{3}{2}x - 2}$ |
| | | 2a - 2 = 12 For a correct method to eliminate the fractions from a correct equation | M1 | $a = \frac{3}{2} \times 6 - 2$ For substituting <i>a</i> and 6 correctly |
| | | <i>a</i> = 7 www3 | A1 | a = 7 [3] |
| 4 | (a) | 45 | B1 | |
| | (b) | 25 | B2 | If B0 award B1 for 30 or 55 seen and not spoilt by use of 150 and/or 50 |
| | (c) | 34 to 36 inclusive | В2 | If B0 award B1 for 128 to 132 inclusive seen [5] |
| 5 | (a) | x^2y oe | B1 | |
| | (b) | $4xy + 2x^2$ oe | B2 | B1 for $2x^2$, B1 for $4xy$ [3] |
| 6 | (a) | A N B 210° A | P1 | A and B must be labelled correctly, with A between South and West |
| | (b) | 50sin30 seen oe 25 | M1 A1 | Allow implicit form If scale drawing used then M0 |
| | | ww2 | | [3] |

| F | Page | e 3 Mark Scheme: Teac | chers' versio | on Syllabus |
|-------|------|---|-------------------------|---|
| | | IGCSE – October/No | ovember 20 [°] | 10 0607 23 |
| | | | | am |
| 7 | 2 | $2\binom{3}{-2} + k\binom{-2}{5} = \binom{-2}{16}$ oe 6 - 2k = -2 or -4 + 5k = 16 | M1 | on Syllabus 10 0607 For setting up equation Implies first M1 |
| | 6 | 6 - 2k = -2 or $-4 + 5k = 16$ | M1 | Implies first M1 |
| | | k = 4 | w3 A1 | [3] |
| 8 (a | l) 1 | 13 | B1 | |
| (t |) 3 | $3(2x-1)^2+1$ isw | B2 | isw attempts to expand/simplify only. If B0 award M1 for $g(2x - 1)$ seen. |
| (c | ;) | $\frac{x+1}{2}$ | B2 | If B0 award M1 for $x = 2y - 1$ or $\frac{y+1}{2}$ or |
| | | | | $\frac{f(x)+1}{2}$ |
| | | | | [5] |
| 9 | Ċ | For correct histogram with frequency density values of $k(2, 1, 0.5, 6, 2)$ where $k > 0$ | Р3 | Award P2 for one error, P1 for two errors, P0 otherwise,Or SC1 for correct frequency densities,Or SC2 for correct histogram with freq polygon superimposed. |
| | | | | [3] |
| 10 (a | 1) | beach | B2 | Award B1 for two correct values in correct positions, B0 otherwise |
| | | sun 0.1 no beac | ch | |
| | | no sun 0.5 0.2 beach | | |
| | | 0.5 no beac | ch | |
| (k |) | $0.8 \times 0.9 + 0.2 \times 0.5$ | M1 | SC1 for $0.8 \times 0.9 (= 0.72)$ or $0.2 \times 0.5 (= 0.1)$ score |
| | (| 0.82 www | A1 | $0.2 \times 0.5 \ (= 0.1)$ seen |

| Pa | age 4 | Mark Scheme: Teacher | rs' versio | n | Syllabus Syllabus |
|----|-----------------------------|--|------------|-----------|---|
| | | IGCSE – October/Nove | mber 201 | 0 | 0607 ⁷⁰ 3C |
| 11 | Two correct | simultaneous equations | | Alternati | ive Solution |
| | e.g. two of 9 | ba + 3b = 6, a - b = 6, 4a + 2b - 6 = -6 oe | M1 | | Syllabus 0607 ive Solution (x1)(x - 3) oe |
| | Correct meth Condone one | hod to eliminate one variable e slip | M1dep | | substitution of values for x and y |
| | a = 2 and $b =$ | | A 1 | | $a \times 1 \times -3$ |
| | | www3 | A1 | a = 2 and | d b = -4 |
| | | | | | ored then SC2 for $(x1)(x - 3)$ d, $a = 2$ or $b = -4$ |
| | | | | | |
| 12 | D | | B1 | | |
| | Е | | B1 | | |
| | Α | | B1 | | |
| | | | | | |