

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

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

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 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.

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Page 2	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2011	0607	21

1 (a)	$5\sqrt{3}$	B1	
(b)	$\frac{5 + \sqrt{3}}{11}$ or $\frac{2(5 + \sqrt{3})}{22}$ oe Final Answer	B2	Only allow denominators of 11 or 22. If B0 give M1 for intention of multiplying by $\frac{5 + \sqrt{3}}{5 + \sqrt{3}}$
			[3]
2 (a)	Both 24 and 35	B1	
(b)	$n^2 - 1$ oe	B2	If B0 give B1 for n^2 seen but no n term. i.e. $n^2 + k$ where k is an integer.
			[3]
3 (a)	4	B2	If B0 give B1 for either $\pm 6x$ or ± 24 seen
			[2]
4 (a)	$\begin{pmatrix} 16 \\ -3 \end{pmatrix}$	B2	Give B1 for each correct number
(b)	5	B2	Not ± 5 If B0 give M1 for $(\pm 4)^2 + 3^2$ [condone no brackets] which can be implied by ± 5 or 25.
			[4]
5 (a)	$(x - 4)(x + 1)$ oe	B2	ISW for any solutions once correct factors seen, <u>but</u> any solutions without working score 0. If B0 give SC1 for signs reversed. Still ISW for any solutions.
(b)	$x < 1$	B2	Condone \leq used throughout. If B0 give M1 for $12 - 2x$ or $5 < 6 - x$ or $5 = 6 - x$ seen. ($x =$) 1 ww is M0.
			[4]
6 (a)	$A \cap B$	B1	
(b)	$B \cap A'$ oe	B1	E.g. $(A \cup B) \cap A'$ $(A \cup B)'$
			[2]
7 (a)	$\frac{36}{d^2}$ [Condone k/d^2 with $k = 36$ stated] Final Answer	B2	If B0 give B1 for $(F =) \frac{k}{d^2}$ or $(F =) \frac{1}{kd^2}$ seen [$k \neq 1$]
(b)	4	B1ft	Ft only from answers in the form $\frac{k}{d^2}$ or kd^2 or $\frac{k}{d}$ [$k \neq 1$]
			[3]

