

MARK SCHEME for the October/November 2013 series

0444 MATHEMATICS

0444/11

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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Cambridge is publishing the mark schemes for the October/November 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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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
soi	seen or implied

Qu	Part	Answers	Mark	Part Marks
1		121 042	1	
2		250	1	
3	(a) (b)	42 000 10 381 cao	1 1	
4	(a) (b)	2 Both lines drawn	1 1	
5	(a) (b)	(4, 1) Point plotted at (-1, 3)	1 1	
6		$3a - 4b$ Final answer	2	B1 for answer $3a \pm jb$ or $ka - 4b$, $j, k \neq 0$ or SC1 for answer reached in working then spoilt
7		125	2	B1 for 55 or 125 in any other correct position on diagram or M1 for $180 - 55$
8		$[x =] 18$ $[y =] 7$	1 1	After zero, SC1 for answers reversed
9		6.6(0)	2	M1 for 44×0.15 oe or $4.4 + 2.2$
10	(a) (b)	$\frac{3}{4}$ oe 1	1 1	
11		4.8 oe	2	M1 for $5 + 19 = 3x + 2x$ oe or better or B1 $24 - 2x = 3x$ oe or $5 = 5x - 19$ oe
12		[Other angle could be] 84	2	M1 for $180 - (48 + 48)$ or SC1 shows that two angles of 66 are needed to make an isosceles triangle

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13	(a)	4	1	M1 for a correctly ordered list of at least 8 numbers
	(b)	13	1	
	(c)	7 nfw	2	
14	(a)	$\frac{2}{6}$ oe	1	M1 for $600 \times$ their (a)
	(b)	200 Final answer	2FT	
15		944 cao	3	M1 for $800 \times 6 \times \frac{3}{100}$ oe A1 for 144 A1 FT Dependent on M1 scored for their 144 + 800 evaluated
16	(a)	Ruled perpendicular line through P	1	$\pm 2^\circ$
	(b)	Correct ruled line drawn with 2 correct sets of arcs	2	B1 for correct line without correct arcs or for 2 sets of correct arcs with no line
17	(a)	-1	1	M1 $y = 11 - mx$ oe or $y = c - x$ oe or $11 - x$
	(b)	$y = 11 - x$ oe Final answer	2	
18	(a)	$\frac{9}{12} - \frac{1}{12}$ oe [=] $\frac{8}{12}$ oe [=] $\frac{2}{3}$	M1 M1	Must be shown. Both fractions must be shown
	(b)	$\frac{5}{2} \times \frac{4}{25}$ oe Cancelling shown or $\frac{20}{50}$ oe [=] $\frac{2}{5}$	M1 M1	Must be shown Dependent and cancelling shown or a fraction and then $\frac{2}{5}$ must be shown
19	(a)	$6b(a - 4c)$ Final answer	2	B1 for answer $6(ab - 4bc)$ or $3b(2a - 8c)$ or $2b(3a - 12c)$ or $b(6a - 24c)$
	(b)	$n(j + k)$ or $nj + nk$ oe Final answer	2	M1 for one correct step of a two step method or SC1 for $[m] = k + jn$ or $[m] = j + kn$

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20	(a)	(i) 11	1	B1 for answer $3n \pm k$, where k is an integer
		(ii) subtract 4 oe	1	
	(b)	2, 6, 10 cao	1	
	(c)	$3n - 4$ oe	2	
21	(a)	[a =] 8	1	FT <i>their</i> (a) and (b)
		[b =] 10	1	
	(b)	Correct line over correct domain	1FT 1	
	(c)	7.75 isw or $7.5 < x < 8$	1FT	