



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

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**MATHEMATICS (US)**

**0444/13**

Paper 1 (Core)

**October/November 2016**

MARK SCHEME

Maximum Mark: 56

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**Published**

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.

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**Abbreviations**

cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
oe	or equivalent
SC	Special Case
nfw	not from wrong working
soi	seen or implied

<b>Question</b>	<b>Answer</b>	<b>Mark</b>	<b>Part marks</b>
<b>1</b>	5034	<b>1</b>	
<b>2</b>	-3	<b>1</b>	
<b>3</b>	36	<b>1</b>	
<b>4</b>	$n^7$ final answer	<b>1</b>	
<b>5 (a)</b>	$2.47 \times 10^6$	<b>1</b>	
<b>(b)</b>	$7.9 \times 10^{-3}$	<b>1</b>	
<b>6</b>	$0.4^2 \quad 0.22 \quad \left(\frac{1}{2}\right)^2 \quad \sqrt{0.09}$	<b>2</b>	<b>M1</b> for decimal conversion of 0.25, 0.3 and 0.16
<b>7 (a)</b>	Station wagon	<b>1</b>	
<b>(b)</b>	35	<b>1FT</b>	
<b>8</b>	$\frac{23}{30}$ cao	<b>2</b>	<b>M1</b> for $\frac{18k}{30k}$ and $\frac{5k}{30k}$
<b>9 (a)</b>	18.3	<b>1</b>	
<b>(b)</b>	128	<b>1</b>	
<b>10</b>	48	<b>2</b>	<b>M1</b> for $\frac{x}{16} = \frac{30}{10}$ or $\frac{x}{30} = \frac{16}{10}$ oe or 3 or $\frac{1}{3}$
<b>11 (a)</b>	172	<b>1</b>	
<b>(b)</b>	166	<b>2</b>	<b>B1</b> for an ordered list of at least 5 numbers or <b>B1</b> 164 and 168 identified
<b>12 (a)</b>	0.6	<b>1</b>	
<b>(b)</b>	$\frac{12}{25}$	<b>2</b>	<b>B1</b> for $\frac{48}{100}$ or equivalent fraction

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Question	Answers	Mark	Part Marks
13 (a)	960	1	
(b)	200	2	M1 for $6400 \div 32$
14 (a) (i)	$\frac{5}{12}$	1	
(ii)	0	1	
(b)	[0].65	1	
15	36	3	M2 for $5 \times 3 + 7.5 + 9.5 + 4$ oe or M1 for two of 5, 7.5, 9.5 and 4
16 (a)	$\begin{pmatrix} 2 \\ 1 \end{pmatrix}$	1	
(b)	8, 7	1	
17 (a)	60	2	M1 for $2 \times 3 \times 10$
(b)	not reasonable oe his answer is too big oe	1	
18 (a)	30	1	
(b)	47.5	3	M2 for $(5 \times 5) + \left(\frac{4.5 \times 5}{2}\right)[\times 2]$ oe soi or M1 for $\frac{4.5 \times 5}{2}[\times 2]$ oe seen or $4.5 \times 5 + 25$
19 (a)	142	1	
(b)	9	2	M1 for $360 \div 40$
20 (a)	Three correct, ruled lines	2	B1 for two correct lines
(b) (i)	Drawing a rectangle or rhombus	1	
(ii)	FT their quadrilateral in (b)(i)	1FT	
21 (a) (i)	21	1	
	subtract 7	1	
(ii)	162	1	
	multiply by 3	1	
(b)	$5n - 2$	2	M1 for $kn - 2$ or $5n + k$

Page 4	Mark Scheme	Syllabus	Paper
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Question	Answers	Mark	Part Marks
22	<p>Correct method to eliminate one variable</p> <p><math>x = 5</math> and</p> <p><math>y = -2</math></p>	<p><b>M1</b></p> <p><b>A1</b></p> <p><b>A1</b></p>	<p><b>M1</b> for correctly equating one set of coefficients</p> <p>If zero scored, <b>SC1</b> for 2 values satisfying one of the original equations or <b>SC1</b> if no working shown, but 2 correct answers given</p>