

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

## **MARK SCHEME for the May/June 2015 series**

### **0580 MATHEMATICS**

**0580/13**

Paper 1 (Core), maximum raw mark 56

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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
nfww	not from wrong working
soi	seen or implied

Question	Answer	Mark	Part marks
1	700	1	
2	56	1	
3	$\frac{22}{25}$ cao	2	<b>M1</b> for $\frac{88}{100}$ oe seen
4	168	2	<b>M1</b> for $240 \div (7 + 3)$ or better
5	$3x(3x - 2)$ final answer	2	<b>B1</b> for $x(9x - 6)$ or $3(3x^2 - 2x)$
6	1350 1450	1, 1	If zero, award <b>SC1</b> for correct but reversed
7	66.4[2.....]	2	<b>M1</b> for $\cos [\dots =] \frac{2}{5}$ oe
8 (a)	[+] 2	1	
(b)	-6	1	
9 (a)	7.16[1...]	1	
(b)	3.5 oe	1	
10 (a)	$2.7 \times 10^5$	1	
(b)	$4.57 \times 10^8$	2	<b>M1</b> for $(6.4 \times 10^7 + 8.5 \times 10^8) \div 2$ or better If 0 scored <b>SC1</b> for figs 457 or $9.14 \times 10^8$
11	44 www	3	<b>M1</b> for angle [ $EBC =$ ] $360 - (82 + 102 + 64)$ oe or better <b>M1FT</b> for angle $ABE = 180 - \text{'their } EBC\text{'}$
12 (a)	correct horizontal and vertical lines only	2	<b>B1</b> for one line only correct and no extras
(b)	2	1	
13	1.60 cao	3	<b>B2</b> for 1.597... or 1.6 or <b>M1</b> for $2 \div 1.252$

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14	$\frac{15}{8}$ <i>their</i> $\frac{15}{8} \times \frac{9}{5}$ oe $\frac{27}{8}$ or $3\frac{3}{8}$ cao	<b>B1</b> <b>M1</b> <b>A1</b>	or $\frac{135}{72}$ or $\frac{135}{72} \div \frac{40}{72}$ or equivalent division with fractions with common denominators
15	2.8 oe	3	<b>M2</b> for $12 + 2 = 8x - 3x$ or better or <b>M1</b> for $3x + 12$ or $8x - 2$
16	20.6 or 20.58 to 20.59	3	<b>M2</b> for $\frac{85 - 67.5}{85} \times 100$ or $\left(1 - \frac{67.5}{85}\right) \times 100$ or <b>M1</b> for $\frac{85 - 67.5}{85}$ or $\frac{67.5}{85} \times 100$ If zero scored <b>SC1</b> for $\frac{67.5 - 85}{85} \times 100$
17 (a)	1, 5	1	
(b)	$\begin{pmatrix} 5 \\ -2 \end{pmatrix}$	1	
(c)	$\begin{pmatrix} 6 \\ -1 \end{pmatrix}$	1	
(d)	$\begin{pmatrix} -18 \\ 42 \end{pmatrix}$	1	
18 (a)	[0].85 final answer	2	<b>B1</b> for 0.853[5...] or 13.7 and 16.05 seen
(b)	0.507 0.5077 $\frac{5}{9}$ 57%	2	<b>M1</b> for 3 in the correct order or <b>B1</b> for [0].57 and [0].55... or 0.56
19 (a)	67	1	
(b)	$2 \times 3^3$ oe	2	<b>B1</b> for a correct factor tree or 2,3,3,3 identified
(c)	18 cao	2	<b>B1</b> for final answer of 2, 3, 6 or 9

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<b>20</b>	<b>(a)</b>	2040 or 2036 or 2035.7 to 2036.1	<b>2</b>	<b>M1</b> for $\pi \times 6^2 \times 18$ If zero, <b>SC1</b> for answer of 8140 (after use of diameter)
	<b>(b)(i)</b>	1104	<b>3</b>	<b>M2</b> for $2 \times (20 \times 14 + 20 \times 8 + 8 \times 14)$ oe or <b>M1</b> for $20 \times 14 + 20 \times 8 + 8 \times 14$
	<b>(ii)</b>	<i>their (b)(i)</i> $\times 100$	<b>1FT</b>	