**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**Cambridge International General Certificate of Secondary Education**

# MARK SCHEME for the May/June 2015 series

## 0580 MATHEMATICS

**0580/12** 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.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

® IGCSE is the registered trademark of Cambridge International Examinations.

CAMBRIDGE
International Examinations

**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

| Qu | Answer | Mark | Part marks |
|---|---|---|---|
| **1*** | 9 [h] 30 [min] cao | **1** | |
| **2*** | $5.34 \times 10^7$ | **1** | |
| **3** | −3 | **1** | |
| **4** | 5 | **1** | |
| **5** | Negative | **1** | |
| **6 (a)** | [0].64 | **1** | |
| **(b)** | $\frac{16}{25}$ cao | **1** | |
| **7** | $2x$ Final answer | **2** | **B1** for $2x + j$ **or** $kx$ [+0] as final answer<br>**or** either $5x - 15$ **or** $-3x + 15$ in working |
| **8** | $\sqrt{0.011}$ 0.11 $3^{-2}$ $\frac{2}{17}$ | **2** | **M1** for correct change to decimals (or %)<br>**or B1** for 3 in correct order. |
| **9*** | 0.2 oe | **2** | **M1** for 1 – (0.15 + 0.3 + 0.35) |
| **10** | $xy(3x - 5z)$ final answer | **2** | **B1** for $x(3xy - 5yz)$ or $y(3x^2 - 5xz)$ |
| **11*** | Parallel | **1** | |
| | Same length | **1** | |
| **12*** | $\frac{8}{3}$ | **B1** | or $\frac{40}{15}$ accept $\frac{3}{8}$ or $\frac{15}{40}$ |
| | $\frac{4}{5} \times \textit{their}\,\frac{3}{8}$ oe | **M1** | or $\frac{12}{15} \div \textit{their}\,\frac{40}{15}$ or equivalent division with fractions with common denominators |
| | $\frac{3}{10}$ cao | **A1** | |

© Cambridge International Examinations 2015

| Qu | Answer | Mark | Part marks |
|---|---|---|---|
| **13*** **(a)** | 11 | **1** | |
| **(b)** | 8 | **2FT** | **FT** 30 – 2 × *their (a)*<br><br>or **M1** for $4 \times 7 = 2(x - 1) + FG$ oe<br>or $4(x - 4) = 2(x - 1) + FG$ oe<br>or $2 \times 7 + 2(x - 4) = 2(x - 1) + FG$ oe<br>Allow $x$ to be *their* (a) in each case |
| **14** | 548 or 547.8 or 547.75 to 547.76 | **3** | **M2** for $480\left(1+\frac{4.5}{100}\right)^3$ oe<br><br>or **M1** for correct method for amount for 2 years.<br><br>**SC2** for [interest = \$]68 or 67.8 or 67.75 to 67.76 |
| **15** **(a)** | $\frac{73}{200}$ oe | **1** | |
| **(b)** | 1971 | **2FT** | **M1** for *their* (a) × 5400 ($0 <$ *their* (a) $<1$) or<br>5400 ÷ 200 × 73 |
| **16** **(a)** | $\begin{pmatrix}3\\7\end{pmatrix}$ | **1** | |
| **(b)** **(i)** | *C* marked at (−4, 0) | **1** | |
| **(ii)** | (−4, 0) | **1FT** | Co-ordinates of *their* point *C* |
| **17** **(a)** | [$x$ =] 37 | **1** | |
| **(b)** | [$y$ =] 53 | **1FT** | Follow through 90 – *their* (a) |
| **(c)** | [$z$ =] 74 | **2FT** | **M1** for eg 180 – 2× *their* angle *BDC*<br>or 180 – 2× *their* (b)<br>or 2 × *their* (a) |
| **18** **(a)** | 45, 38 | **1, 1FT** | Follow through *their* 45 – 7 |
| **(b)** | 80 – 7$n$ oe | **2** | **B1** for – 7$n$ |
| **19*** **(a)** | 78 | **3** | **M2** for $5 \times 12 + \frac{1}{2} \times 12 \times (8 - 5)$ **or** $\frac{1}{2} \times 6 \times (5 + 8) \times 2$ oe<br><br>or **M1** for $5 \times 12$, $\frac{1}{2} \times 12 \times (8 - 5)$, $\frac{1}{2} \times 6 \times (5 + 8)$<br>or $12 \times 8 - (\ldots)$ |
| **(b)** | 1170 | **1FT** | 15 × *their (a)* |

© Cambridge International Examinations 2015

| Qu | Answer | Mark | Part marks |
|---|---|---|---|
| **20 (a)** | $3 \times 180$ | **1** | |
| **(b)** | 51, 153 204 | **4** | **M1** for $540 - (79 + 53)$ [= 408]<br>**M1 dependent** for *their* $408 \div (1 + 3 + 4)$<br>**A1** for 1 correct angle<br><br>If zero, **SC2** for 67.5, 202.5 and 270<br>or **SC1** for 67.5 |
| **21 (a)** | Jan | **1** | |
| **(b)** | 9 | **1** | |
| **(c)** | 9.5 | **2** | **M1** for correctly ordering at least 7 months from one end<br>**or**<br>identifying the middle two, 8 and 11 |
| **(d)** | 8.8 | **3** | **M1** for attempt to add the temperatures ÷ 12<br><br>**A1** for 8.83[3.....]<br><br>After **M1 A0**, award **SC1** for their mean correct to 2 sf |

© Cambridge International Examinations 2015