**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

## 0580 MATHEMATICS

**0580/11** Paper 1 (Core), maximum raw mark 56

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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

| Qu. | Answers | Mark | Part Marks |
|---|---|---|---|
| **1** | 847 | **1** | |
| **2** | **(a)** 20 376<br><br>**(b)** 20 400 | **1**<br><br>**1ft** | <br><br>Their **(a)** to nearest 100 |
| **3** | **(a)** 3<br><br>**(b)** 3 | **1cao**<br><br>**1** | |
| **4** | **(a)** Trapezium<br><br>**(b)** Parallelogram | **1**<br><br>**1** | Do not allow Trapezoid |
| **5** | 100 | **2** | **M1** for $\frac{600}{5+1}$ (×1)<br>If zero, **SC1** for answer of 500 |
| **6** | 124 or 123.8<br>or 123.83 to 123.92 | **2** | **M1** for $\pi \times 6.28^2$ |
| **7** | 0.54 | **2** | **M1** for $\frac{2.7 \times 20000}{100000}$ oe<br>**or SC1** for figs 54 in answer |
| **8** | **(a)** 10<br><br>**(b)** 9 | **1**<br><br>**1** | |
| **9** | 22.5 oe | **3** | **B2** for $180 = 5x + 2x + x$ oe or better<br>**B1** for $2x$ or $6x$ marked in the correct place on the diagram |
| **10** | $x = 13$<br>$y = -9$ | **3** | **M1** for consistent multiplication and addition/subtraction.<br>**A1** for $x = 13$ or **A1** for $y = -9$ |
| **11** | $\frac{26}{12} - \frac{7}{12}$ or $2 - \frac{5}{12}$ oe<br><br>$1\frac{7}{12}$ or $\frac{19}{12}$ oe | **M2**<br><br>**A1** | **M1** for $\frac{13}{6} - \frac{7}{12}$ or $2\frac{2}{12} - \frac{7}{12}$ or $\frac{1}{6} - \frac{7}{12}$ oe |
| **12** | **(a)** 1738.3<br><br>**(b)** $2.87 \times 10^4$<br><br>**(c)** 6.5 | **1**<br><br>**1**<br><br>**1** | |

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| | | | |
|---|---|---|---|
| **13** | 3245 | **3** | **M1** for $3000 \times 1.04^2$<br>**A1** for 3244.8<br>If zero, **SC2** for answer of 245<br>If zero, **SC1** for their answer **corrected** to nearest dollar |
| **14** | **(a)** (0)8(.)01(am)<br><br>**(b)** 78.4 or 78.38 to 78.39 | **1**<br><br>**3** | Not 8.01 pm<br><br>**M2** for 827 ÷ 10.55<br><br>**or M1** for figs 827 ÷ their time |
| **15** | **(a) (i)** 9<br>**(ii)** 15 03, 3.03pm<br><br>**(b) (i)** 7 or –7<br>**(ii)** 17 | **1**<br>**1**<br><br>**1**<br>**1** | |
| **16** | **(a)** 84°<br>**(b)** 10<br>**(c)** 60<br><br>**(d)** $\frac{96}{360}$ or $\frac{16}{60}$ | **1**<br>**1**<br>**1ft**<br><br>**1ft** | Check diagram<br><br>ft their **(b)** × 6 where **(b)** is an **integer**<br><br>ft $\frac{16}{\text{their } \mathbf{(c)}}$ oe where **(c)** is an **integer** |
| **17** | **(a)** $\begin{pmatrix}6\\2\end{pmatrix}$<br>**(b)** C marked at (1, 2)<br>**(c)** $\begin{pmatrix}4\\-3\end{pmatrix}$<br>**(d)** $\begin{pmatrix}-12\\4\end{pmatrix}$ | **1**<br>**1**<br>**1**<br>**1** | |
| **18** | **(a)** 66°<br><br>**(b)** 114°<br><br>**(c)** 33° | **2**<br><br>**1ft**<br><br>**1ft** | **M1** for 90° clearly identified as *A*<br><br>180 – their **(a)**<br><br>$\frac{180 - \text{their } \mathbf{(b)}}{2}$ or $\frac{\text{their } \mathbf{(a)}}{2}$ |
| **19** | **(a) (i)** $x + 7$<br>**(ii)** $3x$<br><br>**(b) (i)** $x$+their **(a)(i)**+their **(a)(ii)**=32 or better<br>**(ii)** ($x$ =) 5<br><br>**(c)** 12 | **1**<br>**1**<br><br>**1ft**<br><br>**2ft**<br><br>**1ft** | <br><br>ft dependent on 2 algebraic expressions in **(a)**<br><br>**M1** for $5x = 32 - 7$ oe<br>**ft** their **(b)(i)** with M1 for $ax = b$<br>**and A1** if answer is an integer.<br>**ft** their **(b)(ii)** substituted into their **(a)(i)**<br>**or** their **(b)(ii)** + 7 evaluated correctly |

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