



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

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**MATHEMATICS**

**0580/01**

Paper 1 (Core)

**For Examination from 2015**

SPECIMEN MARK SCHEME

**1 hour**

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**MAXIMUM MARK: 56**

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The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **4** printed pages.

**Types of mark**

- M** marks are given for a correct method.  
**A** marks are given for an accurate answer following a correct method.  
**B** marks are given for a correct statement or step.  
**D** marks are given for a clear and appropriately accurate drawing.  
**P** marks are given for accurate plotting of points.  
**E** marks are given for correctly explaining or establishing a given result.  
**SC** marks are given for special cases that are worthy of some credit.

**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  
 art anything rounding to  
 soi seen or implied

Qu.	Answers	Mark	Part Marks
1	$\begin{pmatrix} -3 \\ 4 \end{pmatrix}$	1	
2	24 or 24 out of 30	2	<b>M1</b> for $\frac{4}{5} \times 30$
3	1.8	2	<b>M1</b> for $1.4 \div 7$ or <b>SC1</b> for <b>answer</b> 180
4	16	2	<b>B1</b> for 1cm to 0.5km oe or 800 000 (cm) or figs 16
5	(a) 25 (b) Green cao	1 1	
6	7.5(0) cao	2	<b>M1</b> for $\frac{258.75}{4.6}$
7	(a) 120 (b) $\frac{9}{25}$ cao	1 2	<b>B1</b> for $\frac{36}{100}$ or $\frac{18}{50}$
8	(a) 7853 to 7855 or 7850 or 7860 www (b) 0.7853 to 0.7855 or 0.785 or 0.786	2 1ft	<b>M1</b> for $\pi \times 50^2$ Their (a) $\div 10\ 000$ evaluated
9	(a) 15 (b) 2 (pm), 6 (pm) (c) 15	1 1 1	Allow -15
10	(a) Rectangle or rhombus (b) Isosceles (triangle) (c) 5 cao	1 1 1	Either one or both given

11	$\frac{11k}{24k}$ final answer www		<p>Method 1 (Addition first)</p> <p><b>B1</b> <math>\frac{8}{12} + \frac{3}{12}</math> or <math>\frac{8+3}{12}</math> oe</p> <p><b>M1</b> <math>\frac{1 \times \text{their } 11}{2 \times \text{their } 12}</math></p> <p><b>A1</b></p> <p>Method 2 (Multiplication first)</p> <p><b>B1</b> <math>\frac{2}{6} + \frac{1}{8}</math> or <math>\frac{1}{3} + \frac{1}{8}</math> oe</p> <p><b>M1</b> <math>\frac{ad+bc}{bd}</math> for their <math>\frac{a}{b} + \frac{c}{d}</math></p> <p><b>A1</b></p> <p>If <b>M0</b>, <b>SC1</b> if <math>\frac{11}{12}</math> is only followed by <math>\frac{11}{24}</math> or if zero, <b>SC1</b> if work is entirely in decimals with answer of 0.458<math>\dot{3}</math> to 0.45835</p>
12	<p>(a) Correct ruled line</p> <p>(b) -2.7, 0.7</p>	<p><b>1</b></p> <p><b>1, 1ft</b></p>	<p><b>B2ft</b> their ruled line through (0, 3) for two intersections given to 1 decimal place or <b>B1</b> for -2.70 to -2.75 and 0.70 to 0.75 or <b>B1ft</b> their ruled line through (0, 3) for two intersections not given to 1 decimal place</p>
13	135 cao	<b>3</b>	<p><b>M1</b> for 720 or <math>(6-2) \times 180</math> oe seen in working and <b>M1</b> for equation <math>180 + 4x = \text{their } 720</math> or <b>M1</b> for <math>(360 - 180) \div 4 (= 45)</math> oe seen in working and <b>M1</b> dep for <math>180 - \text{their } 45</math></p>
14	<p>(a) <math>9x - 10</math> final answer</p> <p>(b) <math>2x^3 - 3x</math> final answer</p>	<p><b>2</b></p> <p><b>2</b></p>	<p><b>B1</b> for <math>6x - 4</math> or <math>3x - 6</math> or for answer of <math>9x + j</math>, or <math>kx - 10</math></p> <p><b>B1</b> for answer in form <math>2x^3 + m</math> or <math>n - 3x</math></p>
15	<p>(a) Negative</p> <p>(b) Correct point</p> <p>(c) (i) Accurate ruled line (ii) English mark</p>	<p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1ft</b></p>	<p>Ignore embellishments</p> <p>Follow through their (c)(i)</p>
16	<p>(a) 70</p> <p>(b) (i) <math>(y =) 80</math> (ii) <math>(z =) 40</math> (iii) <math>(t =) 10</math></p>	<p><b>2</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1ft</b></p>	<p><b>B1</b> for angle <math>ABD = 70^\circ</math> stated or seen on the diagram</p> <p>Follow through <math>90 - \text{their } y</math> or <math>50 - \text{their } z</math></p>

17	<p>(a) 7.42 or 7.416... cao</p> <p>(b) 67.97 to 68(.0) cao</p>	<p>3</p> <p>2</p>	<p><b>M2</b> for <math>\sqrt{(8^2 - 3^2)}</math> or complete alternate method or <b>M1</b> for <math>x^2 + 3^2 = 8^2</math> or better</p> <p><b>M1</b> for <math>\cos(y) = \frac{3}{8}</math> oe</p>
18	<p>(a) 75</p> <p>(b) 3.81(25)</p>	<p>2</p> <p>4</p>	<p><b>M1</b> for <math>\frac{500 \times 5 \times 3}{100}</math> oe or <b>SC1</b> for answer of 575</p> <p><b>M2</b> for <math>500 \times 1.05 \times 1.05 \times 1.05</math> or <b>M1</b> for <math>500 \times 1.05 \times 1.05</math> <b>A1</b> for 578.81(25) or 78.81(25) seen and <b>A1ft</b> for value of <math>500(1.05)^3 - 500</math> – their (a)</p>