

**MARK SCHEME for the May/June 2009 question paper**  
**for the guidance of teachers**

**0607 CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/01**

Paper 1 (Core), maximum raw mark 40

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 must be read in conjunction with the question papers and the report on the examination.

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**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.

### Abbreviations

cao correct answer only

cso correct solution only

ft follow through

oe or equivalent

soi seen or implied

ww without working

www without wrong working

<b>1 (a)</b>	1, 2, 3, 6, 9, 18	<b>B1</b>	
<b>(b)</b>	6	<b>B2</b>	If <b>B0</b> then award <b>B1</b> for evidence of at least three factors of 24 <b>[3]</b>
<b>2 (a)</b>	14	<b>B1</b>	
<b>(b)</b>	35°C	<b>B1</b>	
<b>(c)</b>	180	<b>B1</b>	<b>[3]</b>
<b>3 (a)</b>	5 <sup>4</sup>	<b>B1</b>	
<b>(b)</b>	6x <sup>7</sup>	<b>B2</b>	<b>B1</b> for 6 <b>B1</b> for x <sup>7</sup> <b>[3]</b>
<b>4</b>	$\frac{1}{2}$	<b>B2</b>	<b>B1</b> for $\frac{25}{50}$ or equivalent <b>[2]</b>
<b>5 (a)</b>	A E	<b>B2</b>	Deduct one for each error
<b>(b)</b>	N S	<b>B2</b>	Deduct one for each error <b>[4]</b>
<b>6 (a)</b>	3p(p – 4)	<b>B2</b>	<b>B1</b> for p(3p – 12) or 3(p <sup>2</sup> – 4p)
<b>(b)</b>	6x + 3y – 2x + 6y 4x + 9y	<b>M1</b> <b>M1ft</b>	Dependent on 4 terms. Not spoiled. <b>[4]</b>
<b>7</b>	2x – 2y = 8 oe or x = y + 4 oe <u>3x + 2y = 17</u> 3(y + 4) + 2y = 17 5x = 25 x = 5, y = 1 x = 5, y = 1	<b>M1</b> <b>A1A1</b>	<b>M1</b> for equating coefficients or correct substitution If <b>M0</b> award <b>SC1</b> for evidence of elimination or substitution. <b>[3]</b>
<b>8 (a)</b>	22, 27	<b>B1</b>	
<b>(b)</b>	5n – 3	<b>B2</b>	Award <b>B1</b> for 5n <b>B1</b> for – 3 <b>[3]</b>

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<b>9</b>	<b>(a)</b>	Translation, $\begin{pmatrix} 4 \\ 3 \end{pmatrix}$	<b>B2</b>	Award <b>B1</b> for translation <b>B1</b> for $\begin{pmatrix} 4 \\ 3 \end{pmatrix}$ or equivalent words
	<b>(b)</b>	Reflection in $x = 1$	<b>B2</b>	Award <b>B1</b> for reflection <b>B1</b> for $x = 1$ or line indicated
<b>[4]</b>				
<b>10</b>	<b>(a)</b>	100	<b>B1</b>	Accept 19
	<b>(b)</b>	20	<b>B1</b>	
	<b>(c)</b>	90 kg	<b>B1</b>	
<b>[3]</b>				
<b>11</b>	<b>(a)</b>	30	<b>B1</b>	<b>B1</b> for $180 - (2 \times 70)$ seen or implied  <b>B1</b> for 720 or 330 seen
	<b>(b)</b>	40	<b>B2</b>	
	<b>(c)</b>	150	<b>B2</b>	
<b>[5]</b>				
<b>12</b>		$\frac{x}{50} = \frac{10}{25}$ oe $25x = 500$ $x = 20\text{m}$	<b>M1</b>  <b>M1</b> <b>A1</b>	Dependent for correctly removing fractions. OR <b>M1</b> for 2.5 or 0.4 or equivalent seen. <b>M1</b> for multiplying OR <b>M1</b> for finding angle $\text{invtan} \frac{50}{25}$ <b>M1</b> for multiplying $10 \times \tan(\text{angle})$ www 3
<b>[3]</b>				