



**Published**

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### Abbreviations

awrt	answers which round to
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	[0]8 33	3	<b>M2</b> for $\frac{40}{50} \times 60$ oe or <b>M1</b> for $\frac{40}{50}$ soi
2	60	2	<b>M1</b> for $\frac{36}{3}$
3	11.5	2	<b>M1</b> for re-ordering list of at least 6
4 (a)	1800	2	<b>M1</b> for $180 - \frac{360}{12}$ or for $(12 - 2) \times 180$ soi
(b)	24	2	<b>B1</b> for $\frac{360}{180 - 165}$
5	3	3	<b>M2</b> for $\frac{9.7 - 2 \times 2.6}{1.5}$ or <b>M1</b> for $9.70 - 2 \times 2.6$
6 (a)	51	1	
(b)	-96	1	
(c)	0.5 oe	1	
7 (a)	$7.54 \times 10^{-4}$	2	<b>M1</b> for $0.00075 + 0.000004$ or $750 \times 10^{-6}$ or $0.04 \times 10^{-4}$ or figs 754
(b)	$3 \times 10^{-9}$	2	<b>B1</b> for $30 \times 10^{-10}$ or answer 0.000000003
8	$x^5 - 7x^2$ final answer	2	<b>B1</b> for each
9	0.069 0.6 <sup>2</sup> 65% $\frac{2}{3}$ $\sqrt{0.7}$	2	<b>B1</b> for one in wrong place
10	1	2	<b>B1</b> for $6x - 8$ or $-6x + 9$  If 0 scored <b>SC1</b> for $kx + 1$

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<b>Question</b>	<b>Answer</b>	<b>Mark</b>	<b>Part Marks</b>
<b>11 (a)</b>	3	<b>2</b>	<b>B1</b> for $4\sqrt{36}$ oe or $7\sqrt{9}$ oe soi
<b>(b)</b>	$3 + \sqrt{2}$ final answer	<b>2</b>	<b>M1</b> for $\times \frac{3 + \sqrt{2}}{3 + \sqrt{2}}$
<b>12</b>	Correctly equating one set of coefficients Correct method to eliminate one variable $x = -1$ $y = -1$	<b>M1</b> <b>M1</b> <b>B1</b> <b>B1</b>	Equation $x =$ or $y =$ from one equation Correct substitution into other equation  If 0 scored <b>SC1</b> for correct substitution into one of original equations and evaluation to find other variable
<b>13 (a)</b>	Correct graph	<b>2</b>	<b>B1</b> for $y = x^3$ shape <b>B1</b> for cubic graph through (0, 2), with 2 marked or (0, 2) on answer line
<b>(b)</b>	Correct graph	<b>3</b>	<b>B1</b> for cos graph, max at (0, $k$ ) approx <b>B1</b> for graph through (0, 2), with 2 marked or (0, 2) on answer line <b>B1</b> for range as 2 to $-2$ approx