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MARK SCHEME

Maximum Mark: 40

Published

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.

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MARK SCHEME NOTES

The following notes are intended to aid interpretation of mark schemes in general, but individual mark schemes may include marks awarded for specific reasons outside the scope of these notes.

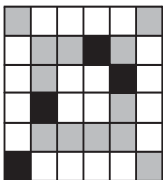
Types of mark

- M Method marks, awarded for a valid method applied to the problem.
- A Accuracy mark, awarded for a correct answer or intermediate step correctly obtained. For accuracy marks to be given, the associated Method mark must be earned or implied.
- B Mark for a correct result or statement independent of Method marks.

When a part of a question has two or more ‘method’ steps, the M marks are in principle independent unless the scheme specifically says otherwise; and similarly where there are several B marks allocated. The notation ‘**dep**’ is used to indicate that a particular M or B mark is dependent on an earlier mark in the scheme.

Abbreviations

awrt	answers which round to
cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
nfww	not from wrong working
oe	or equivalent
rot	rounded or truncated
SC	Special Case
soi	seen or implied

Question	Answer	Marks	Partial marks										
1	42 700	1											
2(a)	(2, 4)	1											
2(b)	Correct plot	1											
3	<table border="1"> <thead> <tr> <th>Data</th> <th>Type of data</th> </tr> </thead> <tbody> <tr> <td></td> <td>Discrete</td> </tr> <tr> <td></td> <td>Continuous</td> </tr> <tr> <td></td> <td>Discrete</td> </tr> <tr> <td></td> <td>Continuous</td> </tr> </tbody> </table>	Data	Type of data		Discrete		Continuous		Discrete		Continuous	2	B1 for 3 correct
Data	Type of data												
	Discrete												
	Continuous												
	Discrete												
	Continuous												
4	4	2	B1 for 52 or 48 seen or 6, 4 and – 14 oe										
5(a)	All 5 lines correct	2	B1 for any 2 correct lines and no extras										
5(b)		1											
6	25 52 82 110	2	B1 FT for <i>their</i> correct values with one addition error										
7(a)	10	1											
7(b)	38	2	M1 $\frac{19}{50}$ [$\times 100$] oe seen										
7(c)	$\frac{7}{25}$	2	B1 $\frac{14}{50}$ seen										
8	30	1											
9	24 000	2	M1 for $20 \times 30 \times 40$ or better										
10	72	2	M1 for $360 \div 5$										
11	7	2	M1 for $\frac{2 \times 21}{6}$ oe or $\frac{2 \times A}{h}$										
12(a)	1	1											
12(b)	$18p^9$ final answer	2	B1 for $18p^k$ or kp^9 , $k \neq 0$										
13	$2 \times 2 \times 2 \times 11$ or $2^3 \times 11$	2	M1 for 2×44 or $2 \times 2 \times 22$ or $2 \times 4 \times 11$ or 8×11 or 2, 2, 2, 11										

Question	Answer	Marks	Partial marks
14	12	3	B1 for 9 seen and M1 for $\frac{their9}{75}$ [$\times 100$] oe or B1 for $\frac{84}{75}$ oe and M1 for $(\frac{84}{75} - 1)$ [$\times 100$] oe
15	5.6×10^7	2	B1 for correct answer not in standard form
16	(0, 3)	3	M2 for (2, 3) plotted correctly and $x = 1$ drawn or M1 for (2, 3) plotted correctly or $x = 1$ drawn If zero scored B1 for each component or SC1 for (2, -1) final answer
17(a)	(8, 5)	1	
17(b)	Translation $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$	2	B1 for each