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0607/32

Paper 3 (Core)

May/June 2016

MARK SCHEME

Maximum Mark: 96

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
nfwf	not from wrong working
soi	seen or implied

Question	Answer	Marks	Part Marks
1 (a) (i)	Nine thousand four hundred and twenty seven	1	
(ii)	9430	1	
(b) (i)	$2 + 7 = 9$ or $9 + 7 = 16$	1	
(ii)	$4 + 2 = 6$ or $7 + 9 = 16$	1	
(iii)	$4 + 9 = 13$ or $9 + 2 = 11$ or $4 + 7 = 11$	1	
2 (a) (i)	24	1	
(ii)	All heights correct and approximately equal width	2	B1 for 3 heights correct
(b) (i)	2	1	
(ii)	More than 2 [children in a house] oe	1	
(iii)	54	1	Within tolerance
(iv)	60	2	B1 for $\frac{1}{4}$ soi
3 (a)	36	1	
(b)	80	2	M1 for 10×8
	m^2	1	
(c)	15	3	M2 for $\frac{12}{\text{their}(b)} \times 100$ soi or M1 for $\frac{12}{\text{their}(b)}$ soi
(d)	16	1	
	25	1	

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Question	Answer	Marks	Part Marks
4 (a)	1380	2	B1 for 62×15 soi by 930
(b)	Disco : 36.6... rounded or truncated	2	M1 for $\frac{1000 - 450}{15}$ soi
	Ballroom : 38.6... rounded or truncated	2	M1 for $\frac{1000 - 575}{11}$ soi
	38	1	Final answer. Dependent on 4 scored.
5 (a)	(3, 1)	1	Accept 3 right, 1 down oe
(b)	(0, 4)	1	
(c)	(−3, −2) correctly plotted	1	
(d)	(1.5, 2.5) oe	1	
(e)	Correct reflection in y-axis line joining (0, 4) and (−3, 1)	1	
(f)	Translation $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$	1 1	
6 (a) (i)	Correct 2 by 4 pattern	1	B1 for $-4n$ soi or $25 - kn$ $k \geq 1$
(ii)	30	1	
(b) (i)	1	1	
	−3	1	
(ii)	$-4n + 25$ oe	2	
7 (a)	Obtuse	1	Dep. on $ABC = 55$
(b) (i)	70	1	
(ii)	$ABC = 55$ soi	1	
	10	1	
	[because triangle ABC is] isosceles	1	

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Question	Answer	Marks	Part Marks
8 (a)	$6a$ final answer	1	
(b)	$3x^3 - 5x$ final answer	2	B1 for $3x^3$ or $-5x$ seen
(c)	9	2	M1 for $x - 5 = 4$ or for $2x = 8 + 10$
(d) (i)	t^7 final answer	1	
(ii)	$5t^3$ final answer	2	B1 for $\frac{20t^3}{4}$ or $\frac{5t^5}{t^2}$ seen
9 (a)	5 : 2	2	B1 for 60 : 24 oe
(b)	2.5 hours or $2\frac{1}{2}$ hours or 2 hours 30 minutes or 150 minutes	2	M1 for $\frac{5}{12}$ or $\frac{6}{12}$ soi
(c) (i)	$6\frac{1}{2}$ or 6.5 or 6 hours 30 minutes	1	
(ii)	$5\frac{1}{2}$ or 5.5 or 5 hours 30 minutes	1	
10 (a)	3 points correctly plotted	2	B1 for 2 correctly plotted points
(b)	Positive	1	
(c)	Line of best fit	1	Within tolerance
(d)	3.4 to 4	1	
11 (a)	$63 \times \pi$ 197.9...	M1 A1	
(b)	28.4 or 28.36 to 28.38	4	M3 for $\frac{172 \times 198}{100 \times 12}$ oe soi or M2 for $\frac{172 \times 198}{12}$ or $\frac{198}{100 \times 12}$ oe soi or M1 for 172×198 or $\frac{198}{12}$ oe soi

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Question	Answer	Marks	Part Marks
12 (a)	13 500	3	M2 for $5850 + 0.05 \times 153000$ oe or M1 for 0.05×153000 oe
(b)	12.4 or 12.41 to 12.42	3	M2 for $\frac{172000 - 153000}{153000} [\times 100]$ oe or M1 for $\frac{172000}{153000} [\times 100]$ oe
13 (a)	29	1	
(b) (i)	17	1	
(ii)	26	1	
(c) (i)	$\frac{11}{29}$ isw oe	1FT	Accept $\frac{11}{their(a)}$
(ii)	$\frac{3}{29}$ isw oe	1FT	Accept $\frac{3}{their(a)}$
(iii)	$\frac{14}{29}$ isw oe	1FT	Accept $\frac{14}{their(a)}$
14 (a)	56.6 or 56.56 to 56.57	3	M2 for $90^2 - 70^2$ oe soi or M1 for $90^2 = x^2 + 70^2$
(b)	51.1 or 51.05 to 51.06	2	M1 for $[\sin \dots] = \frac{70}{90}$ oe
15 (a)	Correct graph	2	B1 for correct shape B1 for correct position
(b)	(2, 3)	1	
(c)	Correct line	2	B1 for approximately correct gradient B1 for approximately correct y-intercept
(d)	5.24 0.764	1 1	