Cambridge IGCSE

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Cambridge International General Certificate of Secondary Education

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/32**

Paper 3 (Core) **October/November 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
nfww	not from wrong working
soi	seen or implied

Question			Answer	Marks	Part Marks
1	**(a)**		trapezium triangle square parallelogram	1 1 1 1	
	(b)	**(i)**	2	1	
		(ii)	2 correct lines	2	**B1** for 1 correct line and no incorrect or for 2 correct lines but $\geqslant 1$ incorrect
2	**(a)**	**(i)**	38	1	
		(ii)	6	1	
		(iii)	67	2	**B1** for 35 and 32 soi
	(b)		4400	2	**B1** for 4375
	(c)		5	3	**B2** for answer 4 or 4.25 or **M1** for $(175 + 12) \div 44$ soi
3	**(a)**	**(i)**	130	1	
		(ii)	Obtuse	1	
	(b)		147 57 33	1 1 1	
4	**(a)**		Correct pattern	1	
	(b)		13, 16	1	
	(c)		+3 oe	1	
	(d)		Sarah, with correct justification	3	**M2** for substituting one value bigger than or equal to 2 into both formulae or **M1** for any substituting into either formula

5	(a)	62.5 oe	2	**M1** for $6\frac{1}{4}\times10$ oe
	(b)	12 min 30 sec	4	**B3** for 12.5 minutes seen or **M2** for $6.25 \div 30 \times 60$ oe or **M1** for $6.25 \div 30$ oe
6	(a)	57	2	**B1** for 12 or 45 seen or **M1** for $6 \times 2 + 9 \times 5$ seen
	(b)	$5x +13$	2	**B1** for $5x$ or $[+]13$ seen
	(c)	$3(2x + 3y)$	1	
7	(a)	24	2	**M1** for $6 \times 8 \div 2$ soi
	(b)	336	3FT	**FT** $288 + 2\times$*their* (a) **M2** for 12×8, 12×10 and 12×6 soi or **M1** for any two of 12×8, 12×10, 12×6 soi
	(c)	288	1FT	**FT** $12\times$*their* (a)
8	(a)	16.11	3	**M2** for $8.95 \div 5 \times 9$ or **M1** for $8.95 \div 5$
	(b)	1.38	3	**M2** for 1.20×1.15 oe or **M1** for 1.20×0.15 oe
	(c)	12	3	**M2** for $(5.50 – 4.84) \div 5.50$ oe or **M1** for $4.84 \div 5.50$ oe
9	(a)	10	1	
	(b)	2	3	**M1** for $6x – 3 = 9$ or for $2x – 1 = 3$ **M1** for $6x = 12$ or for $2x = 4$
	(c)	$4\frac{1}{2}$ oe	3	**M2** for $7x – 3x$ seen and $20 - 2$ seen or **M1** for $7x – 3x$ seen or $20 - 2$ seen
10	(a)	[0.75, 1.5] 3, 6, 12, 24	1	
	(b)	Correct curve	1 1	**B1** for correct shape **B1** for crosses y-axis at approximately 3
	(c) (i)	Correct line	1	Above where curve crosses y-axis
	(ii)	1.415 to 1.42	1	

11	(a)	<u>Steve</u> Median = 27 IQR = 13	1 2	**B1** for 30 or 17 seen
	(b)	<u>Tam</u> Median = 23 IQR = 11 or 11.5	1 2	**M1** for 28 or 28.5 or 17 seen
	(c)	Steve's plants are taller oe Tam's plants have a more consistent height oe	1 1	
12	(a)	[0.455] 0.21, 0.335	2	**M1** for $n \div 200$ soi
	(b)	Large amount of trials oe	1	
	(c)	1675	2	**M1** for $their \dfrac{67}{200} \times 5000$
	(d)	0.665	2	**M1** for $0.455 + their(0.21)$
13	(a)	1.17×10^{13}	2	**B1** for 9×10^{16} seen
	(b)	[0].00013	1	
	(c)	$\sqrt{\dfrac{E}{m}}$ oe	2	**M1** for $c^2 = \dfrac{E}{m}$ or **SC1** for answer $\dfrac{\sqrt{E}}{m}$
14		826 or 825.6 to 825.7	6	**M1** for 3×100 **M1** for 4×80 **M1** for 2×40 **M2** for $\dfrac{1}{2} \times \pi \times 80$ or **M1** for $\pi \times 80$
15	(a)	8.13 or 8.127…	2	**M1** for $4.6^2 + 6.7^2$ seen
	(b)	27.6 or 27.64…	3	**M2** for $10.8 \div \sin 23$ or **M1** for $\sin 23 = \dfrac{10.8}{y}$