



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/32**

Paper 3 (Core)

**October/November 2016**

MARK SCHEME

Maximum Mark: 96

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

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5	(a)	62.5 oe	2	M1 for $6\frac{1}{4} \times 10$ 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× <i>their</i> (a) M2 for $12 \times 8$ , $12 \times 10$ and $12 \times 6$ soi or M1 for any two of $12 \times 8$ , $12 \times 10$ , $12 \times 6$ soi
	(c)	288	1FT	FT 12× <i>their</i> (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 $1.20 \times 1.15$ oe or M1 for $1.20 \times 0.15$ 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	B1 for correct shape
	(c) (i)	Correct line	1	B1 for crosses y-axis at approximately 3
	(c) (ii)	1.415 to 1.42	1	Above where curve crosses y-axis

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11	(a)	Steve Median = 27 IQR = 13	1 2	B1 for 30 or 17 seen
	(b)	Tam Median = 23 IQR = 11 or 11.5	1 2	
	(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 <i>their</i> $\frac{67}{200} \times 5000$
	(d)	0.665	2	M1 for $0.455 + \text{their}(0.21)$
13	(a)	$1.17 \times 10^{13}$	2	B1 for $9 \times 10^{16}$ seen
	(b)	[0].00013	1	
	(c)	$\sqrt{\frac{E}{m}}$ oe	2	M1 for $c^2 = \frac{E}{m}$ or SC1 for answer $\frac{\sqrt{E}}{m}$
14	826 or 825.6 to 825.7	6	M1 for $3 \times 100$ M1 for $4 \times 80$ M1 for $2 \times 40$ M2 for $\frac{1}{2} \times \pi \times 80$ 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 $\sin 23 = \frac{10.8}{y}$