CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the May/June 2015 series

0607 CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/32 Paper 3 – Core, maximum raw mark 96

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Abbreviations

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

1	**(a)**	**(i)**	32 650	**1**	
		(ii)	32 700	**1**	
	(b)		62.6	**1**	
	(c)		530.8416	**1**	
	(d)		6	**1**	
	(e)		9	**1**	
	(f)		24	**1**	
	(g)		208 : 234	**2**	**M1** for dividing by 17 soi
	(h)		1.6[0]	**2**	**B1** for 8.4[0]
2	**(a)**		$\frac{75}{100}$ oe isw	**1**	
	(b)		66.67	**2**	**B1** for correct answer to ⩾ 2 sf
	(c)		$\frac{12}{25}$	**2**	**B1** if correct fraction not in lowest terms
	(d)		5.76	**1**	
	(e)		76.8[0]	**2**	**M1** for 0.8 × 96 oe
	(f)		120	**2**	**M1** for $\frac{800 \times 5 \times 3}{100}$ oe

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3	**(a)**	$\frac{5}{10}$ oe	**1**	
	(b)	$\frac{4}{10}$ oe	**1**	
	(c)	$\frac{0}{10}$	**1**	
	(d)	$\frac{2}{10}$ oe	**1**	
4	**(a)**	40	**1**	
	(b)	blue	**1**	
	(c) **(i)**	brown = 9 green = 36 black = 72	**2**	**B1** for 1 correct angle
	(ii)	3 sectors correct	**2**	**B1** for 1 sector correct
5	**(a)**	6	**1**	
	(b)	24	**1**	
	(c)	1	**1**	
	(d)	12	**1**	
6	**(a)**	600	**2**	**B1** for 100
	(b)	314 or 314.1 to 314.2	**2**	**M1** for $4\times\pi\times5^2$ oe
	(c)	1520 or 1523 to 1524	**4**	**M3** for $10^3+\frac{4}{3}\times\pi\times5^3$ oe or **M2** for $\frac{4}{3}\times\pi\times5^3$ or **M1** for 10^3
	(d)	60.9 or 60.8 to 60.96	**2 FT**	If 0 scored **SC1 FT** for 6090 or 6080 to 6096

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7	(a)		135	1	
	(b)		71.6 or 71.56 to 71.57	2	**M1** for $\tan[C] = \frac{36}{12}$
	(c)		37.9 or 37.94 to 37.95	2	**M1** for $\sqrt{36^2 + 12^2}$ or better
	(d)		25.5 or 25.45 to 25.46	3	**M2** for $CF = \frac{18}{\sin 45}$ or $\frac{18}{\cos 45}$ or **M1** for $\sin 45 = \frac{18}{CF}$ or $\cos 45 = \frac{18}{CF}$ If 0 scored **SC2** for correct answer from Pythagoras
	(e)	(i)	[triangle *CFG* is] isosceles [*CG* = 18]	1	**M1** for 31 – 18 oe
			31 – 18 = 13	1	Dep on isosceles
		(ii)	173 or 173.3 to 173.5	1 FT	**FT** 110 + *their* **(c)** + *their* **(d)**
	(f)		612	3	**M2** for 0.5×12×36 + 0.5×18 ×18 + 13 ×18 or better or **M1** for 0.5×12×36 or 0.5×18×18 or 13×18 or better
8	(a)		Points plotted correctly	2	**B1** for 4 points correct
	(b)		positive	1	
	(c)	(i)	6.75	1	
		(ii)	5	1	
		(iii)	Point plotted correctly	1 FT	
	(d)		Ruled line through mean within tolerance	2	**B1** any line through mean point
	(e)		5 or 6	1 FT	**FT** line with positive gradient
9	(a)			2	**M1** for correct shape **A1** for maximum in second quadrant and *x* intercepts approximately correct
	(b)		6	1	

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	(c)		–2.47 or –2.475 to –2.474 0.808 or 0.8081…	**1** **1**	
	(d)		(–0.833, 8.08) or (–0.833.., 8.083..)	**1**	
	(e)			**2**	**B1** for positive gradient **B1** for correct y-intercept at approximately 4
	(f)		(–2.59, –1.18) or (–2.591 to –2.590, –1.181…) (0.257 , 4.51) or (0.2573…, 4.514 to 4.515)	**1** **1**	
10	**(a)**	**(i)**	–2	**2**	**M1** for subtracting 6 or dividing by 5
		(ii)	$x < 3$	**2**	**M1** for subtracting 3 or dividing by 6
	(b)	**(i)**	s^7	**1**	
		(ii)	t^8	**1**	
		(iii)	$6r^2$	**2**	**B1** for kr^2 or $6r^k$ $(k \neq 0)$
	(c)		$10x - 9$ final answer	**2**	**M1** for $(4x - 12)$ or $(6x + 3)$
	(d)		$3y(5 - y)$ final answer	**2**	**B1** for $3(5y - y^2)$ or $y(15 - 3y)$
11	**(a)**		18	**3**	**M2** for $\frac{15}{50} \times 60$ oe or **M1** for $\frac{15}{\textit{their}\ \text{time}}$ or $\frac{50}{60}$
	(b)		75	**3**	**M2** for $\frac{15}{12} \times 60$ or **M1** for $\frac{15}{12}$ or $\frac{12}{60}$ or 5 min/km

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