IGCSE Maths (4400) May 2007 Paper 1F Mark scheme

Q		Working	Answer	Mark	Notes	
1.	(ai)		8 rectangles shaded	2	B1	
	(ii)		60		B1	cao
	(b)		0.4(0)	1	B1	
	(c)	$\frac{40}{100}$		2	M1	for $\frac{40}{100}$, $\frac{20}{50}$ etc
			$\frac{2}{5}$		A1	cao
						Total 5 marks

2.	(ai)		(1,5)	2	B1	
	(ii)		(5,0)		B1	
	(b)		64	1	B1	Allow $\pm$ 2mm
	(c)	8(0) + 2 × "64"		2	M1	Also award for 20.4-21.2
			204-212 inc		A1	ft from "64"
	(d)		isosceles	1	B1	
	(ei)		77	2	B1	Allow $\pm$ 2
	(ii)		acute		B1	
						Total 8 marks

Q		Working	Answer	Mark	Notes
3.	(ai)		24	5	B1 cao
	(ii)		15		B1 cao
	(iii)		27		B1 cao
	(iv)		25		B1 cao
	(v)		23		B1 cao
	(bi)		24	2	B1 cao
	(ii)		39		B1 cao
					Total 7 marks

4.	(a)		31	1	B1 cao
	(b)		eg "Add 6"	1	B1
	(c)		61	1	B1 cao
	(d)		289	1	B1 ft from (b)
	(e)	eg "Sum of two odd numbers is always even"		1	B1 Accept if 'odd' used correctly
					Total 5 marks

5.	(ai)		B	4	B1 cao
	(ii)		I		B1 cao

	(iii)		D		B1	cao
	(iv)		F		B1	cao
	(b)		H	1	B1	cao
						Total 5 marks

Q		**Working**	**Answer**	**Mark**	**Notes**	
6.	(a)		300	1	B1	cao
	(b)		855-875	1	B1	
	(c)		Bengali	1	B1	
	(d)		100 < bar < 150	1	B1	
	(e)	300 : 125		2	M1	for 300:125, 60:25 also for 125 : 300, 25 : 60, 5 : 12
			12 : 5		A1	
	(f)	$\frac{70}{100}\times 330$		2	M1	
			231		A1	
	(g)	$\frac{143}{332}\times 100$		2	M1	for $\frac{143}{332}$ or 0.430722...
			43.1		A1	for 43.1 or better
						Total 10 marks

7.	(a)	$2x = 1 - 9$		2	M1	
			-4 oe		A1	

	(b)	$5y - 2y = 7 + 4$		2	M1	
			$\frac{11}{3}$, $3\frac{2}{3}$ oe		A1	Also accept 2 or more d.p. rounded or truncated e.g. 3.66, 3.67
						Total 4 marks

Q		Working	Answer	Mark	Notes	
8.	(ai)		1 pm	2	B1	Accept 1300
	(ii)		10 pm		B1	Accept 2200
	(b)		−6	1	B1	cao
	(c)		Rio de Janeiro	1	B1	Accept "Rio"
	(di)		7	2	B1	Accept −7
	(ii)		5		B1	Accept −5
						Total 6 marks

9.	(a)		20	1	B1	cao
	(b)		$7 + 4 \times (5 - 2)$	1	B1	cao
	(c)		54.872	1	B1	
	(d)		2.6	1	B1	cao
						Total 4 marks

10.	(i)		$y = 3$	3	B1
	(ii)		$x = 5$		B1
	(iii)		$y = x$		B1
					Total 3 marks

Q		**Working**	**Answer**	**Mark**	**Notes**
11.	(a)	$\frac{68.89}{9.1}$		2	M1 for 8.3, 68.89, 9.1 or 30.90...
			7.5703...		A1 Accept if first 5 figures correct
	(b)		7.57	1	B1 ft from (a) if non-trivial
					Total 3 marks

12.	(a)		$\frac{1}{5}$	1	B1 Accept 0.2, 20%
	(b)		$\frac{3}{5}$	2	M1 for fraction with denominator 5 A1 for $\frac{3}{5}$ Accept 0.6, 60%

	(c)	150 × "$\frac{3}{5}$"		2	M1	
			90		A1	ft from "$\frac{3}{5}$" Do not accept $\frac{90}{150}$
						Total 5 marks

13.	(a)	28 × 15		2	M1	
			420		A1	cao
	(b)	rectangle 5.6 cm long and 3 cm wide		2	B2	B1 for each Allow $\pm$ 2mm
						Total 4 marks

Q		Working	Answer	Mark	Notes	
14.	(a)	$(-3)^2 - 5 \times -3$		2	M1	for substn or 9 or 15 seen
			24		A1	cao
	(b)		$x(x - 5)$	2	B2	B1 for factors which, when expanded and simplified, give two terms, one of which is correct *SC* B1 for $x(5 - x)$
						Total 4 marks

15.	(a)		47	1	B1	cao
	(b)	51 − 46		2	M1	for 51 − 46, 46-51 etc
			5		A1	cao
	(c)	46×3+47×6+48×3+49×5+50×2 +51×1 or 138+282+144+245+100+51 or 960		3	M1	for finding at least 4 products and adding
		"960" ÷ 20			M1	(dep) for division by 20
			48		A1	cao
						Total 6 marks

Q		**Working**	**Answer**	**Mark**	**Notes**		
16.	(a)	translation 3 squares to the right and 1 square down		2	B2	B1 for translation Accept translate, translated etc Accept 'across' instead of 'to the right'	These marks are independent but award no marks if answer is not
						B1 for 3 right and	

						1 down or $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$ but not (3, −1)	a single transformation
	(b)	rotation of 90° clockwise about (2, −1)		3	B3	B1 for rotation Accept rotate, rotated etc	
						B1 for 90° clockwise or −90° or 270°	
						B1 for (2, −1)	
							Total 5 marks

17.	(ai)		7^8	2	B1	cao
	(ii)		5^6		B1	cao
	(b)	$9 + 4 - n = 8$ or $13 - n = 8$		2	M1	Also award for $2^n = 5$, $2^n = 32$ or 2^5 on answer line
			5		A1	cao
						Total 4 marks

Q		**Working**	**Answer**	**Mark**	**Notes**	
18.	(a)	$12x - 15 - 8x - 4$		2	M1	for at least 3 terms correct
			$4x - 19$		A1	

	(b)	$y^2 + 3y + 8y + 24$		2	M1	for 3 terms correct or y^2 + 11y seen
			$y^2 + 11y + 24$		A1	
	(c)		$5p^3 + 4p$	2	B2	cao B1 for either $5p^3$ or for $+ 4p$
						Total 6 marks

19.	(a)	$\frac{38.5}{21} \times 60$ or $\frac{21}{60} = 0.35$; $\frac{38.5}{0.35}$		3	M1	for $\frac{38.5}{21}$ or 1.8333... or $\frac{38.5}{0.21}$ or 183.33... or $\frac{21}{60}$ or 0.35
					M1	for '1.8333...' $\times 60$ or $\frac{38.5}{'0.35'}$
			110	3	A1	cao
	(b)	$\pi \times 4.19^2 \times 38500$			M2	M1 for π × (no with digits 419)^2 × no with digits 385
			2 120 000		A1	for 2 120 000 or for answer which rounds to 2 120 000 (π → 2123433.419 3.14 → 2122356.929 3.142 → 2123708.749)
						Total 6 marks