IGCSE Maths Nov 2007 Paper 1F Mark Scheme Post-Standardisation

Q		Working	Answer	Mark	Notes	
1.	(a)		24	**1**	B1	
	(b)		27	**1**	B1	
	(c)		23	**1**	B1	
	(d)		25	**1**	B1	
	(e)		27	**1**	B1	
	(f)		23	**1**	B1	
						Total 6 marks

2.	(a)		Reasonable attempt	**2**	B2	horiz diag 2.3 to 3.1: B2, 2.0 to 3.4: B1 ignore other lines
	(b)(i)		0	**1**	B1	or none or zero or nought or nothing
	(b)(ii)		2	**1**	B1	
						Total 4 marks

3.	(a)		$^3/_8$	**1**	B1	or $^6/_{16}$
	(b)		$^3/_4$ shaded	**1**	B1	any 6 sectors shaded
	(c)		75	**1**	B1	ignore "%" sign
						Total 3 marks

4.	(a)		5	**1**	B1	
	(b)		24	**1**	B1	allow 23 – 24.5 inclusive
	(c)		Russia	**1**	B1	or "Russia . . .6%" allow misspelling
	(d)	4 x 3.7	Western Europe	**2**	M1 A1	allow 4 x (3.0 to 3.9)
	(e)		Bar of correct ht	**1**	B1	$12.5 \leq h < 15$
	(f)	4.6/100 x 30000	1380	**2**	M1 A1	accept 1 380 000 000
						Total 8 marks

5.		5 x 2 + 7 x 3	31	**2**	M1 A1	5 × 2 and 7 × 3 or 10 and 21
						Total 2 marks

6.	(i)		Diameter	**1**	B1	allow misspelling
	(ii)		Segment	**1**	B1	allow misspelling
						Total 2 marks

7.	(a)		4.7	**1**	B1	
	(b)	(5.7 + 6.3)/2	6	**2**	M1 A1	5.7 & 6.3 indic'd, eg rings or arrow or $^{6+1}/_{2}$ or 3.5
	(c)(i)		$^{1}/_{6}$ or 0.166.. or 0.17	**1**	B1	or 16.6..% or 17% allow 0.16 or 16%
	(ii)		$^{2}/_{6}$ oe	**2**	B2	M1 denom A1 num or $^{1}/_{3}$ or 0.33 B2
						Total 6 marks

8.	(a)(i)		25	**1**	B1	
	(a)(ii)	65 = 2*n* + 5 or (65-5)/2 oe	30	**2**	M1 A1	- 5 or ÷ 2 or 60 or 32.5 or 27.5
	(b)		4 -6	**2**	B1 B1f	ft their "4" – 10
						Total 5 marks

9.	(a)	5 x 16 + 7 x 12	164	**2**	M1 A1	ISW
	(b)		16*x* + 12*y*	**2**	B2	oe B1 either term.
						Total 4 marks

10.	(a)(i)		2.345207...	**1**	B1	
	(a)(ii)		2.345	**1**	B1f	ft if rounding needed
	(b)(i)		79.507	**1**	B1	
	(b)(ii)		80	**1**	B1f	ft if rounding needed
						Total 4 marks

11.	(a)(i)		0.8 or 0.80 or $^4/_5$	**1**	B1	ignore "m" or "metres"
	(a)(ii)	2.5 x 1.2 x 0.8	2.4	**2**	M1 A1	250 x 120 x 80 Allow 2.5 x 1.2 x 80 or 2 400 000 $\underline{cm^3}$
	(b)	2.1/(2.5x1.2) or 2.1/"2.4" x0.8	0.7	**2**	M1 A1	210/(250x120) or 21/"24" x 80 or 70 ie vol ÷ area of base or 70 $\underline{cm}$
						Total 5 marks

12.	(a)	350 – 200 = 150 45 + 150 x 0.5	120	**3**	B1 M1 A1	Allow 45 + 350 x 0.5
	(b)	140 – 45 (= 95) "95" / 0.5 (= 190) 200 + "190"	390	**4**	M1 M1 M1 A1	- 45 ÷ 0.5 + 200 or: 140 – "120" (= 20) "20" ÷ 0.50 (= 40) 350 + "40"
						Total 7 marks

13.	(a)	3*x* = 15	5	**2**	M1 A1	or 15 / 3
	(b)	5*y* + 20 (= 35) 5*y* = 15	3	**3**	M1 M1 A1	or 35 / 5 or 35 – 20 may be implied *y* + 4 = 7 or 7 – 4 or 15 ÷ 5 M2
						Total 5 marks

14.	(a)	360 / 5 (= 72) (180 – "72") / 2	54	**3**	M1 M1 A1	dep	or: 3 × 180 ÷ 5 ÷ 2
	(b)	360 / 5 or 180 – 2 x "54"	72	**2**	M1 A1f	or 72 seen	
							Total 5 marks

15.		1×5 + 2×8 + 3×3 + 4×4 (= 46) / 20	2.3	**3**	M1 M1 A1	dep. Allow / his Σf or 2 if $^{46}/_{20}$ seen
						Total 3 marks

16.	(a)		Isosceles	**1**	B1	or "isosceles triangle" allow misspelling, eg "eyesosilees"
	(b)(i)		$2x + 2x + x = 12$	**1**	B1	oe ISW allow in (ii) if not contrad in (i) ignore units
	(b)(ii)	$5x = 12$	$x = 2.4$	**2**	M1 A1	allow in (i) if not contrad in (ii) $4x = 12$ SC1 x = 2.4, no wking: B0M1A1
						Total 4 marks

17.	(a)		4 : 3	**2**	B2	1 mark for 4 to 3 or 1.33 : 1 or 1: 0.75 or 8 : 6 or 16 : 12 or 20:15
	(b)	$\frac{160}{280}$ x 100 or 4/7 x 100	57(.1…)	**2**	M1 A1	
						Total 4 marks

18.	(a)	$\pi \times 2^2$	12.6	**2**	M1 A1	12.6 or better
	(b)	$\pi \times 3^2$ – ("12.6" or $\pi \times 2^2$)	15.7 to 15.8	**2**	M1 A1	$\pi \times 3^2$ - . . .
	(c)	2 x π x 3	18.8	**2**	M1 A1	allow $2\pi \times 3 - 2\pi \times 2$ for M1 only 18.8 to 18.9 (incl)
						Total 6 marks

19.		sin 2.5/7.1 or 0.352….. 20.6…..		**3**	M1 A1 A1	not sin 90
						Total 3 marks

20.	(a)		1, 2, 3, 4, 6, 8	**2**	B2	no repetitions B1 with repeats or one digit omitted
	(b)		1, 2, 9	**2**	B2	B1 if one digit is omitted or 1, 2 , 9, 10
						Total 4 marks

21.		0.4 + 0.2 1 – (0.4 + 0.2) 0.4		**3**	M1 M1 A1	1 – (0.3 + 0.4 + 0.2) or 0.1 in table dep "0.1" + 0.3
						Total 3 marks

22.	(a)		w^8	**2**	B2	w^{10} seen: B1
	(b)	17 – x = 3×7 17 = 21 + x or -x = 4 x = -4		**3**	M1 M1 A1	 or 17 = 3×7 + x
	(c)	4y < 6 + 5 y < 2.75		**2**	M1 A1	allow "=" only if ans incl "y <" or $y < {}^{11}/_{4}$ or $y < 2^{3}/_{4}$ on line
						Total 7 marks