IGCSE Maths (4400) November 2007 – Paper 2F Mark Scheme – Final

Q		Working	Answer	Mark	Notes
1.	(a)	four thousand, eight hundred and seventy eight		1	B1 Accept digits for 4, first 8 Condone omission of "and"
	(b)		hundreds	1	B1 Accept 700, 100
	(c)		5000	1	B1 cao
	(d)		520	1	B1 cao
	(e)i		$\frac{11}{100}$	2	B1 cao
	ii		0.11		B1 cao
					Total 6 marks

2.	(a)		LOT Poland	1	B1 Accept any clear identification
	(b)i		5	3	B1 cao
	ii		10		B1 ft from (i)
	iii		26-29 inc		B1 ft from (i)
	(c)	32 ÷ 8 or 4 or 3 × 32 or 96 or 0.375		2	M1
			12		A1 cao
	(d)	$\frac{14}{35}$		2	M1
			$\frac{2}{5}$		A1 cao
	(e)	72 ÷ 6 or 12 seen		2	M1
			84		A1 cao
					Total 10 marks

3.	i		millimetre, mm	3	B1
	ii		grams, g		B1
	iii		metres, m		B1
					Total 3 marks

4.	(a)		8.2	1	B1 cao
	(b)i		Arrow	3	B1 within ½ a division
	ii	hundredth, $\frac{1}{100}$, 0.01			B1 Accept $\frac{8}{100}$, 0.08
	iii		2		B1 cao
	(c)		2.485	1	B1 cao
					Total 5 marks

5.	(a)i		cube	3	B1 Accept "cuboid"
	ii		prism		B1 Condone omission of "hexagonal"
	iii		cylinder		B1
	(b)i		6	2	B1 cao
	ii		18		B1 cao
					Total 5 marks

6.	(a)		32	1	B1	cao
	(b)	eg Double, Multiply by 2, Add on twice as many, Add term to itself		1	B1	
	(c)		4096	1	B1	cao
	(d)	eg 513 is odd, All terms are even		1	B1	
						Total 4 marks

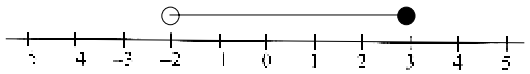
7.	(a)		$2d$	1	B1	Accept $2 \times d$, $d2$ etc
	(b)		$6pq$	1	B1	cao No $\times$ signs
	(c)		$3x - 2y$	2	B2	B1 for $3x$, B1 for $-2y$
	(d)		$6n^2$	1	B1	cao
						Total 5 marks

8.	(a)	25 52 205 250 502		1	B1	cao
	(b)	−12 −10 −9 −7 0		1	B1	cao
	(c)	0.078 0.08 0.7 0.708 0.78		1	B1	cao
	(d)	$\frac{2}{5} = 0.4$ $30\% = 0.3$ $\frac{1}{3} = 0.\dot{3}$		2	M1	for one correct conversion to a decimal
		30% $\frac{1}{3}$ 0.35 $\frac{2}{5}$			A1	cao SC if M0, award B1 for 3 in correct order
						Total 5 marks

9.	(a)	eg 2 × 28 + 2 × 15		2	M1	for 2×28+2×15, 28+28+15+15 etc
			86		A1	cao
	(b)	28 × 15		2	M1	
			420		A1	cao
						Total 4 marks

10.	(a)		0	1	B1	Accept $\frac{0}{3}, \frac{0}{100}$
	(b)	(1,1) (1,2) (1,3) (2,1) (2,2) (2,3) (3,1) (3,2) (3,3)		2	B2	B1 for 5 or more Condone omission of (1,2)
	(c)		$\frac{4}{9}$	2	M1	for denominator ft from (b) if at least B1 scored
					A1	for numerator ft from (b) if M1 scored
						Total 5 marks

11.	(a)	300 × 2.61		2	M1	
			783		A1	cao
	(b)	812 ÷ 1.45		2	M1	
			560		A1	cao
	(c)	630 × 1.45 ÷ 2.61		2	M1	for $\frac{630}{2.61}$ or 241.38 or better or 241.37 or 630 × 1.45 or 913.5 or 0.55… seen or 1.8 seen
			350		A1	Accept 349.99 or 350
						Total 6 marks

12.	(a)	$4x = 2 + 1$		2	M1	
			¾ oe		A1	
	(b)			2	B2	B1 for either open circle at −2 or solid circle at 3
						Total 4 marks

13.	(a)	opposite angle is 64°		3	M1	Stated or marked on diagram	Alternatively M2 for 180 − 64
		$\frac{360 - 2 \times 64}{2}$			M1		
			116		A1	cao	
	(b)		64	1	B1	cao	
	(c)		4	1	B1	cao	
	(d)		20	1	B1	ft from (c)	
							Total 6 marks

14.	(a)	$\frac{35}{150} \times 360$		2	M1	for $\frac{35}{150}$ or 0.233… or 23.3…. or $\frac{360}{150}$ or 2.4
			84		A1	for 82.8 - 84 inc
	(b)	$\frac{55}{150} \times 60$		3	B1 M1	for $\frac{55}{150}$ oe or $\frac{60}{150}$ oe seen for $\frac{55}{150} \times 60$
			22		A1	cao
	(c)	$68 \times 48 + 58 \times 35$ $= 3264 + 2030$		3	M1	2 products m × f where m is within each interval and consistent (inc end points)
					M1	(dep) for use of halfway values
			5294		A1	Accept 5300 or 5290 if M1 + M1 scored
	(d)	eg no upper limit for extra large, no lower limit for small, don't know midpoints for XL, S		1	B1	
						Total 9 marks

15.	(a)i		57	2	B1 cao	
	ii	alternate angles			B1	Do not accept *Z angles* or *F angles*
	(b)	corresponding angles and sum of angles on a straight line is 180° or allied or co-interior angles and (vertically) opposite angles or alternate angles and sum of angles on a straight line is 180°		2	B1 for one pair	
			71		B1 cao	
						Total 4 marks

16.		$\frac{1.6}{2.5}$		2	M1	for 1.6 or 2.5 seen or for 2.430…
			0.64		A1	Accept $\frac{16}{25}$
						Total 2 marks

17.	(a)		$5(x - 4)$	1	B1	cao
	(b)		$y(y + 6)$	2	B2	B1 for factors, which, when expanded and simplified, give two terms, one of which is correct except $(y + 6)(y - 6)$ and similar SC B1 for $y(y + 6y)$
						Total 3 marks

18.		Reflection in $x = 4$	2	B1	for reflection, reflect
				B1	for $x = 4$ stated or eg 'in dotted line'
					Total 2 marks

19.		$420 \times \frac{100}{56}$	3	M1	for 420 ÷ 56 or 7.5 seen
				M1	(dep) for × 100
		750		A1	cao
					Total 3 marks

20.		arc centre *B* cutting *AB* and *AC* at (say) *P* and *Q*	2	B1	
		arcs centre *P* and *Q* of equal radii which intersect at *R* (say) and *BR* joined		B1	dep) bisector within tolerance
					Total 2 marks

21.	(a)	7 2 (−1) −2 −1 2 7	2	B2	B1 for 4 correct
	(b)	graph	2	B2	B1 for 5 points plotted correctly ± ½ sq ft from (a) if at least B1 scored B1 for correct curve or, if there are 1 or 2 errors in (a) and no plotting errors, award for a curve passing through the **7** points from their table.
					Total 4 marks

22.		$4.9^2 + 16.8^2$ or 24.01 + 282.24 or 306.25		3	M1 for squaring and adding
		$\sqrt{4.9^2 + 16.8^2}$			M1 (dep) for square root
			17.5		A1 cao
					Total 3 marks