

# Mark Scheme (Results) November 2008

IGCSE

## IGCSE Mathematics (4400) Paper 1F

## November 2008 IGCSE 4400 Maths Mark Scheme - Paper 1F

Q	Working	Answer	Mark	Notes
1. (a)	eight thousand and ninety one		1	B1 Accept 8 for eight and 1 for one
(b)	8090		1	B1 cao
(c)	thousand		1	B1 Accept 8000, 1000, th
(d)	8850		1	B1 cao
<b>Total 4 marks</b>				

2. (a)		Friday	1	B1 Accept any clear identification
(b)		20	1	B1 cao
(c)		23 or 24	1	B1 Accept 20 < answer < 25
(d)		Wednesday	1	B1 Accept any clear identification
(e)	20 : 30 or 4 to 6 oe		2	M1
(f)		2 : 3		A1 SC if M0, award B1 for 3 : 2
		0.04	1	B1 cao
(g)	$\frac{4}{100}$		2	M1 for $\frac{4}{100}$ or $\frac{2}{50}$
		$\frac{1}{25}$		A1 cao
<b>Total 9 marks</b>				

Q	Working	Answer	Mark	Notes
3. (i)		8	4	B1 cao
(ii)		9		B1 cao
(iii)		6 or 8		B1
(iv)		7		B1 cao
				<b>Total 4 marks</b>

4. (a)		pentagon	1	B1
(b)		correct pair	1	B1
(c)		correct line	1	B1
(d)		R correct	1	B1
(e)		17	2	B2 if not 17, B1 for $16 \leq \text{ans} \leq 18$
				<b>Total 6 marks</b>

5. (a)		43 51	2	B2 B1 for 43, B1 for 51
(b)		eg Add 8	1	B1
(c)		115	1	B1 cao
(d)		eg 724 is even, all terms are odd	1	B1
				<b>Total 5 marks</b>

Q	Working	Answer	Mark	Notes
6. (a)		2.9	1	B1 cao
(b)(i)		19.0969	2	Accept 2 or more dp rounded or truncated
(ii)		19.1		B1 ft from (i) if 2 or more dp
(c)		17.576	1	Accept 1 or 2 dp rounded or truncated
				<b>Total 4 marks</b>

7. (a)(i)		111-115 inc	3	B1
(ii)		66-70 inc		B1
(iii)		42		B1
(b)	eg 50 50 20, 3×40, 3×"150", 4×"115", 6×"75", 120×5, 190÷50		2	M1 Attempts to split 120 into numbers $\leq 50$ (may be implied by working) or attempts to find conversion rate etc
		440-600 inc		A1 Do not award if there is a clear error in the working (tolerance is $\pm \frac{1}{2}$ sq)
				<b>Total 5 marks</b>

Q	Working	Answer	Mark	Notes
8. (a)(i)		156	2	B1 cao
(ii)	eg Sum of angles at a point = $360^\circ$ A full circle is $360^\circ$ . A full turn is $360^\circ$ .			B1 Do not award for statement that the sum of the angles is $360^\circ$ or for a calculation.
(b)		62	1	B1 cao
(c)(i)		118	2	B1 cao
(ii)	eg sum of angles on a straight line = $180^\circ$			B1 for 'line' and ' $180^\circ$ ' seen or, if (c)(i) is correct, for either 'opposite' or 'sum of angles at a point = $360^\circ$ ' oe
				<b>Total 5 marks</b>

9. (a)(i)		$\frac{1}{10}$	2	B1 Accept 0.1 or 10%
(ii)		0		B1 Accept $\frac{0}{10}$
(b)		$\frac{3}{5}$ or $\frac{6}{10}$	1	B1 Accept 0.6 or 60%
(c)	eg $\frac{2}{5} \times 10, \frac{4}{10}$ seen		2	M1
		4		A1
				<b>Total 5 marks</b>

Q	Working	Answer	Mark	Notes
10.	eg 0.45 0.428... 0.444... 0.43		3	B3 for 3 numbers in correct order or for 2 fractions correctly converted to decimals (at least 2dp rounded or truncated) B1 for 1 fraction correctly converted to a decimal (at least 2dp rounded or truncated)
		$\frac{3}{7} \quad 0.43 \quad \frac{4}{9} \quad \frac{9}{20}$		
				<b>Total 3 marks</b>

11.	$\frac{16.8}{4.2}$ or 4		4	M1
	$\frac{14.4}{4}$ or 3.6			A1
	4.2 × "3.6"			M1
		15.12		A1 Accept 15.1
				<b>Total 4 marks</b>

Q	Working	Answer	Mark	Notes
12. (a)		$4n^2$	1	B1 Accept $4 \times n^2$ , $n^24$ etc.
(b)	$3 \times 4 - (2 \times -5) = 12 + 10$		2	M1 for substitution (condone omission of brackets) or for 12 or +10
		22		A1 cao
(c)	$4x = 11 - 5$ or $4x = 6$		2	M1
		$1\frac{1}{2}$ oe		A1
				<b>Total 5 marks</b>

Q	Working	Answer	Mark	Notes
13. (a)	$\frac{50}{2}$ or 25 or $\frac{51}{2}$ or 25½ or list of all scores		2	M1
(b)	$1 \times 10 + 2 \times 9 + 3 \times 3 + 4 \times 17 + 5 \times 11$ or $10 + 18 + 9 + 68 + 55$ or 160	4	3	A1 cao M1 for at least 3 correct products and summing them
	"160" $\frac{160}{50}$			M1 (dep) for division by 50
	3.2			A1 Accept 3 if $\frac{160}{50}$ seen
(c)		$\frac{17}{50}$	1	B1 Accept 0.34 or 34%
(d)	'No' ticked and eg <i>The scores are not equally likely. 4 is most likely.</i>		1	B1
				<b>Total 7 marks</b>

14. (i)	060-064	2	B1	Condone omission of 0
(ii)	321-325		B1	
				<b>Total 2 marks</b>



Q	Working	Answer	Mark	Notes
15. (a)	$\frac{35}{100} \times 180$ or 63		3	M1 M2 for $\frac{65}{100} \times 180$
	180 – “63”			M1 dep A1 cao
		117		
(b)	$\frac{84}{0.35}$ or $84 \times \frac{100}{35}$		3	M2 for $\frac{84}{0.35}$ or $84 \times \frac{100}{35}$ M1 for $\frac{84}{35}$ or 2.4
		240		A1
				<b>Total 6 marks</b>

16. (a)		$7(p - 3)$	1	B1 cao	
(b)	$4x + 20$		3	M1 for $4x + 20$ seen	or M2 for $x + 5 = 3$
	$4x = 12 - 20$			M1 for $4x = 12 - 20$ or for $4x = 12 - 5$ following $4x + 5 = 12$	
		-2		A1	
					<b>Total 4 marks</b>

Q	Working	Answer	Mark	Notes
17. (a)		translation	2	B1 Accept translated, translate etc
	7 to the left and 1 down or $\begin{pmatrix} -7 \\ -1 \end{pmatrix}$			B1
(b)		rotation	3	B1 Accept rotated, rotate etc
		90°		B1 Accept quarter turn Accept 270°clockwise
		(0, 0)		B1 Accept origin, O
				<b>Total 5 marks</b>

These marks are independent but award no marks if the answer is not a single transformation

18.	$\frac{11.7}{6.5}$		2	M1 for 11.7 or 6.5
		1.8		A1 Accept $\frac{9}{5}$ etc
				<b>Total 2 marks</b>

Q	Working	Answer	Mark	Notes
19.	$\pi \times r^2 \times 7.6$		3	M2 if $r = \frac{4.3}{2}$ or 2.15 (M1 if $r = 4.3$ may be implied by answer rounding to 441)
		110		A1 for answer rounding to 110 ( $\pi \rightarrow 110.367 \dots$ 3.14 $\rightarrow$ 110.311 ...)
				<b>Total 3 marks</b>

20.	$\frac{2}{5} \times \frac{7}{4}$ or $\frac{14}{35} \div \frac{20}{35}$		3	B2 for $\frac{2}{5} \times \frac{7}{4}$ (B1 for inverting second fraction ie $\frac{7}{4}$ ) or B1 for 2 fractions with a denominator of 35 etc B1 for correct numerators
				B1 eg for $\frac{14}{20}$ oe or correct cancelling
				<b>Total 3 marks</b>

Q	Working	Answer	Mark	Notes
21. (a)(i)		$p^6$	2	B1 cao
(ii)		$q^5$		B1 cao
(b)	$12x - 3 - 8x + 12$		2	M1 for 3 correct terms
		$4x + 9$		A1 cao
(c)	$y^2 + 5y + 3y + 15$		2	M1 for 3 correct terms or $y^2 + 8y + c$ or ... + $8y + 15$
		$y^2 + 8y + 15$		A1 cao
				<b>Total 6 marks</b>

Q	Working	Answer	Mark	Notes
22.	$\cos x^\circ = \frac{5.4}{8.7}$ or 0.6206...		3	<p>M1 for cos A1 for <math>\frac{5.4}{8.7}</math> or 0.6206...</p> <p>or M1 for sin and <math>\frac{\sqrt{46.53}}{8.7}</math> following correct Pythagoras and A1 for value which rounds to 0.78</p> <p>or M1 for tan and <math>\frac{\sqrt{46.53}}{5.4}</math> following correct Pythagoras and A1 for value which rounds to 1.26</p>
		51.6	A1	for answer rounding to 51.6
			<b>Total 3 marks</b>	