

# Mark Scheme (Results)

## November 2010

IGCSE

IGCSE Mathematics (4400)  
Paper 2F Foundation Tier

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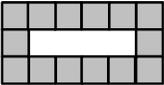
## November 2010 IGCSE Mathematics (4400) Mark Scheme - Paper 2F

In all questions, the correct answer, unless clearly obtained by an incorrect method, should be taken to imply a correct method.

Question	Working	Answer	Mark	B1	Notes
1. a		4010	1	B1	
b		8000	1	B1	
c		tens	1	B1	Accept 10, 30
di		1247	2	B1	
dii		7412		B1	
e	$\frac{639 - 457}{2}$ or 91 oe or $\frac{457 + 639}{2}$ oe		2	M1	
		548		A1	
					Total 7 marks

2. a		30	1	B1	
b		25-29	1	B1	Accept $25 \leq \text{ans} \leq 29$ inc non-integer
c		Green	1	B1	Accept any clear identification
d		Red	1	B1	Accept any clear identification
e	40 : 60, 4 : 6 oe		2	M1	Also award for 3 : 2
		2 : 3		A1	
					Total 6 marks

Question	Working	Answer	Mark		Notes
3. ai		kilograms	3	B1	Accept kilos, kg
aii		centimetres		B1	Accept cm
aiii		litres		B1	Accept /
b		50-160 mm or 5-16 cm	2	B2	for 50-160 mm or 5-16 cm B1 for mm or cm
					Total 5 marks

4. a			1	B1	
b	$2 \times 12 + 6$		2	M1	
		30		A1	cao
c	$2n + 6 = 48$ oe or $\div 2$ and $-6$ in either order		2	M1	
		21		A1	cao
					Total 5 marks

5. a		tenths	1	B1	Accept $\frac{1}{10}$ , 0.1, 3 tenths, $\frac{3}{10}$ , 0.3
b		7	1	B1	Accept 7.0, 7.00 etc
c		90	1	B1	cao
d		0.06 0.5 0.56 0.6 0.65	1	B1	cao
e		$\frac{3}{100}$	1	B1	cao
					Total 5 marks

Question	Working	Answer	Mark		Notes
6. a		$6k$	1	B1	Accept $6 \times k$ , $k6$ , $k \times 6$
b		$7pq$	1	B1	for $7pq$ , $pq7$ etc No $\times$ signs
c		$4y^2$	1	B1	for $4y^2$ , $4 \times y^2$ , $y^2 \times 4$
					Total 3 marks

7. ai		C E	4	B2	for 2 correct B1 for 2 correct & 1 wrong or for 1 correct and none wrong
aii		B E		B2	for 2 correct B1 for 2 correct & 1 wrong or for 1 correct and none wrong
b	3 lines of symmetry & rotational symmetry of order 3		2	B2	B1 for 'line' and '3' B1 for 'rotational' and '3'
					Total 6 marks

Question	Working	Answer	Mark		Notes
8. a	$\frac{6}{2}$ oe or $\frac{6+1}{2}$ oe or $\frac{7+5}{2}$ oe or middle two numbers indicated eg by ringing or by arrow between them		2	M1	
		6		A1	
bi		1	4	B1	Accept $\frac{6}{6}$ , 100%, $\frac{1}{1}$
bii		$\frac{1}{6}$		B1	Accept 2 or more dp rounded or truncated (0.16, 0.17 etc) Also accept 16%, 17% etc.
biii		$\frac{3}{6}$		M1 A1	for denominator of 6 for numerator of 3 Accept $\frac{1}{2}$ , 0.5, 50%
					Total 6 marks

9. i		3481	4	B1	cao
ii		37		B1	cao
iii		17		B1	cao
iv		243		B1	cao
					Total 4 marks

Question	Working	Answer	Mark		Notes
10.	$3 \times 4 \times 0.8$		3	M2	for $3 \times 4 \times 0.8$ or for $30 \times 40 \times 8$ M1 for $3 \times 4 \times$ number with 8 as only non-zero digit or for $30 \times 40 \times$ number with 8 a only non-zero digit or for number with digits 96
		9.6		A1	cao
					Total 3 marks

11.	a	Correct line at least from (-1, -1) to (5, 5)	1	B1	
	b	Correct line at least from (-1, -2) to (4, 8)	2	B2	B1 for two correct points plotted or stated eg in table
					Total 3 marks

12.	$360 - (57 + 118 + 84)$ or 101		3	M1	
	180 - "101"			M1	
		79		A1	cao
					Total 3 marks

13.	a	$\frac{10.73}{5.3} + 1.4 = 2.0245... + 1.4$	2	M1	for 10.73 or 2.0245... or 1.6014...
		3.424528302		A1	for at least first 5 figures
	b	3.42	1	B1	ft from (a) if non-trivial
					Total 3 marks

Question	Working	Answer	Mark		Notes
14.	$248 \times 1.25$ oe		3	M2	M1 for $248 \times 1.15$ or 285.2 or $248 \times 75$ or 18 600
		310		A1	cao
					Total 3 marks

15. a		(7, 6)	2	B2	B1 for 7 B1 for 6
b		$C(3, 10) D(11, 2)$ or $C(11, 2) D(3, 10)$	2	B2	B1 for (3, 10) B1 for (11, 2)
					Total 4 marks

16. a	$198 \div 0.72$		2	M1	
		275		A1	cao
b	$50 \times 0.72 \times 221$		2	M1	for $\times 0.72$ or $\times 221$
		7956		A1	cao
					Total 4 marks

17. a	$1 - (0.3 + 0.1)$		2	M1	
		0.6		A1	cao
b	$0.1 + "0.6"$ or $1 - 0.3$		2	M1	do not award if ans to (a) > 1
		0.7		A1	ft from (a) if ans to (b) < 1
c	$0.3 \times 160$		2	M1	for $0.3 \times 160$ or $0.3 \times 200$ or $\frac{48}{60}$
		48		A1	cao
					Total 6 marks

Question	Working	Answer	Mark		Notes
18. a	$\frac{35}{100} \times 9840$ oe		2	M1	
		3444		A1	cao
b	1350 - 1269 or 81 $\frac{81}{1350} \times 100$ or $\frac{81}{1269} \times 100$		3	M1 M1	or M1 for $\frac{1350}{1269}$ or 1.06... or 106... M1 for "1.06"-1 or "106"-100
					Award both method marks for an answer of 6.4, 6.38 or better.
		6		A1	cao Do not award this mark if a denominator of 1269 used.
					Total 5 marks

19. a	$\frac{2}{3} \times 2.6 \times 1.5^2$		2	M1	for correct substitution
		3.9		A1	cao
b	$35 = \frac{2}{3} \times h \times 2.5^2$ or ( $h =$ ) $\frac{35}{\frac{2}{3} \times 2.5^2}$ oe		2	M1	for correct substitution or correct rearrangement
		8.4		A1	cao
					Total 4 marks

Question	Working	Answer	Mark		Notes
20. a		Q correct Vertices (6, 10) (9, 10) (6, 16)	3	B3	B2 for translation of correct shape or 2 correct vertices B1 for right-angled triangle with base 3 or height 6 in the same orientation as P (Condone omission of label if only one enlargement drawn)
b		R correct Vertices (5, 2) (5,3) (7,3)	2	B2	B1 for translation of correct shape or 2 correct vertices (Condone omission of label if only one congruent triangle drawn)
					Total 5 marks

21.	$\frac{19.6 \times 50000}{100 \times 1000}$		3	M1	for $19.6 \times 50000$ or 980 000 or number with digits 98 or $\frac{50000}{100 \times 1000}$ or $\frac{1}{2}$ km
				M1	for completing calculation $\frac{"980000"}{100 \times 1000}$ or $19.6 \times \frac{1}{2}$
		9.8		A1	cao
					Total 3 marks

22.		$x \geq 1$	3	B1	for $x \geq 1$ or $x > 1$ oe
		$y \geq 2$		B1	for $y \geq 2$ or $y > 2$ oe
		$x + y \leq 8$ oe		B1	for $x + y \leq 8$ or $x + y < 8$ oe
					SC B1 if all inequalities reversed
					Total 3 marks

Question	Working	Answer	Mark		Notes
23.	$\angle ACO = 21^\circ$ or $\angle COB = 42^\circ$ or $\angle ACB = 90^\circ$		4	B1	Angles may be stated or marked on diagram
	$\angle OCP = 90^\circ$ or $\angle CBP = 111^\circ$ or $\angle BCP = 21^\circ$			B1	
	$180 - 21 - (90 + 21)$ or $180 - 42 - 90$ or $180 - 21 - 111$			M1	
		48		A1	Award 4 marks for an answer of 48, unless obtained by a clearly incorrect method.
					Total 4 marks

<b>TOTAL FOR PAPER: 100 MARKS</b>
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