

Mark Scheme (Results) Summer 2007

IGCSE

IGCSE Mathematics (4400_2F)

4400 IGCSE Mathematics
Summer 2007
Paper 2F

Q	Working	Answer	Mark	Notes
1.	(ai) (ii) (iii) (bi) (ii)	199, 999, 1009, 1999, 9000 9000 999 or 9000 4321 1243	1 1 1 1 2	B1 B1 B1 B1 B2 B1 for begin with 1 or end with 1 or 3
				Total 6 marks
2.		A at $0.5 \pm 2\text{mm}$ B at 1 C at $2 \leq d \leq 25\text{mm}$ from 0	1 1 1	B1 B1 B1 ie between 0 & 0.25 exclusive
				Total 3 marks
3.	(ai) (ii) (iii) (b)	Radius Chord Tangent Sector	3 1	B1 allow misspellings B1 allow misspellings B1 allow misspellings B1 allow misspellings
				Total 4 marks

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4	(a) (b) (c) (d) (e) (fi) (ii)	21 3 3970 4000 63 15.83289... 15.8	1 1 1 1 1 1 1	B1 B1 or 3000 or 3 thousand or 1000 or thousands B1 B1 B1 B1 B1 ft
				Total 7 marks
5	(a) $4 \times 5 + 2$ (b) $28 / 4$	22 7	2 2	M1 A1 M1 Allow 30/4 or ans 7.25 oe A1
				Total 4 marks
6	(a) (b) (c) Attempt convert all to dec or % or c. d. All correctly converted	$\frac{12}{36}$ $\frac{3}{10}$ $\frac{9}{25}$	1 1 3	B1 B1 M1 M1 A1
				Total 5 marks

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7	$2 \times 1.10 + 3 \times 1.25$ or 5.95 10.00 - "5.95"	4.05	3	M1 M1 dep A1
				Total 3 marks
8	(a) (b) Σx attempted or 56 / 8 (c) Arrange in order (di) (ii) (e)	7 5.5 oe Same Middle unchanged 2/8 oe	3 2 1 1 2	B1 M1 eg 48.125 M1 dep A1 M1 or answer 5 or 6 A1 B1 indep B1 or still 5.5 B1 num B1 denom Ratio subtr B1
				Total 3 marks
9	(a) (b)	6 cm ² Triangle correct ± 2 mm	3 2	B2 B1 for 5 to 7 incl B1 B2 B1 for a vertex correct ± 2 mm or correct size & orientation ± 2 mm
				Total 5 marks

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10	(a) $(6 + 3) \times 5$ oe			
	(b) $70/5$ or 14 (-3)	45	2	M1 Bracket essential unless ans correct A1 M1 Allow $67/5$ or 13.2
	(c) $-85/5 - 3$ or $-17 - 3$	11	2	A1 M1
	(d)	-20 $5(x + 3)$ or $(x + 3) \times 5$ or $5x + 15$ oe	2	A1
			2	B2 B1 for answer $x + 3 \times 5$. B0 for answer $5x + 3$ or $x + 15$ 'x = ' subtract B1
				Total 8 marks
11	(a)	130	1	B1
	(bi)	40	1	B1
	(ii)	< sum of triangle	1	B1 Not $180 - (90 + 50)$
				Total 3 marks
12	(a) $^{2/5} \times 4800$	1920	2	
	(b) $0.85 \times "1920"$ oe	1632	2	Allow 0.85×4800 oe
				Total 4 marks
13	(i) 2	$x + 2x + 1 + 3x - 5 = 17$	1	B1 oe eg $6x - 4 = 17$ ISW not ' $= p$ '
	(ii) $6x = 21$ or $6x - 21 = 0$ etc	$x = 3.5$ oe eg $^{21}/_6$	2	M1 ft (i) if $6x = c$ A1
				Total 3 marks

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14	9 seen $7/9 \times 27$ or $7 \times 27/9$ oe	21	3	B1 M1 dep B1 A1 21 seen, & ans = 3 B1M1A0 Total 3 marks
15	$5x - 20 = 35$ $5x = 55$	11	3	M1 M1dep or M2 for $x - 4 = 7$ A1 Total 3 marks
16	(a) $\frac{7 \times 50}{2}$ or 7, 50, 2 (b) 175 (c)	200 or 100 Num incr or 6.8 & 47.6 incr denom decr or 2.09 decr (b) rndd up (not rnd to 1 sf) or '175' rndd to 200	2 2 2	B1 for 7 and 2 B1 for 50 M1 $(6\text{or}7) \times (48\text{or}50)$ correctly eval'd 2 or 3 eg 168 A1f If no wking: ft (a) B2 any two of these B1 any one of these Ignore other Total 6 marks
17	(a) $(2 + 3)/2 \times 6$ or $2 \times 6 + \frac{1}{2} \times 6 \times 1$ oe (b) $\frac{15}{20} \times 1000$ $\frac{1000}{20} \times 15$ $\frac{1000 \times 15}{20}$	15 750	2 3	M1 A1 M1 or 0.75 M1 ft '15' for M1M1 only A1 Total 5 marks

Q	Working	Answer	Mark	Notes
18	$x + 3 = 7x$ $(6x = 3 \text{ oe})$	$7y = 7x + 21$ $(6y = 21)$	3	M1 $y = 7(y-3)$ $y = 7y-21$ $0 = 6x-3$ A1A1
		$x = 1/2, y = 3 1/2$		Total 3 marks
19	(a) tan used $\tan x = 5.1/4.2$ or $\tan x = 1.2\dots$ oe (b) $\sin 29 = AB/5$ or $c/\sin 29 = 5/\sin 90$ $AB = 5\sin 29$	$x = 50.5\dots$ $AB = 2.42\dots \text{ cm}$	3 3	M1 (sin or cos) & $(\sqrt{4.2^2+5.1^2})$ or 6.6) used M1 $\sin x = 5.1/\sqrt{4.2^2+5.1^2}$ or $\cos x = 4.2/\sqrt{4.2^2+5.1^2}$ A1 M1 $BC = 5\cos 29$ M1 $AB = \sqrt{5^2+(5\cos 29)^2}$ or $5\cos 29 \times \tan 29$ A1
				Total 6 marks
20	(a) $1 - (0.1 + 0.2 + 0.1)$ or $1 - 0.4$ oe (b) $0.2 + 0.1$ or $1 - ('0.6' + 0.1)$ (c)	0.6 0.3 (Poss) overlap or mut excl or doesn't wk for B or Y } No or poss or poss yes }	2 2 2	M1 or 0.6 in table A1 allow in table if not contrad on line M1 or 0.3 seen A1 B2 Can't tell & (No or poss) B1 Correct reason only: B1 Incorrect reason: B0 Unqualified Yes: B0
				Total 6 marks

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21	$4^2 + 6^2$ (= 52) $\sqrt{4^2 + 6^2}$ or $\sqrt{"52"}$ or $2\sqrt{13}$	$h = 7.21\dots$	3	M1 M1dep A1
				Total 3 marks PAPER TOTAL 100 MARKS