



# Mark Scheme (Results)

January 2013

International GCSE Specification A  
(4MA0) Paper 1F

Level 1 / Level 2 Certificate in Mathematics  
(KMA0) Paper 1F

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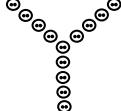
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Question	Working	Answer	Mark	Notes
1. (a)		K2	1	B1 accept 8611
(b)		Six thousand, one hundred and ninety four	1	B1 accept mis-spellings if meaning is clear
(c)		5900	1	B1
(d)		5895	1	B1 accept Kilimanjaro
(e)		1085	1	B1
				<b>Total 5 marks</b>

2. (a)		5	1	B1
(b)		26 to 28 inclusive	1	B1 accept decimal values between 26 and 28
(c) (i)		Middle East	1	B1
(c) (ii)		2/25	2	B2 B1 for 8/100 or 4/50
(d)		Bar drawn >30 and < 35	1	B1 Bar drawn between (not touching) heights 30 and 35
				<b>Total 6 marks</b>

3. (a)		3/100	1	B1 accept 100 <sup>ths</sup> , hundredths, 1/100 (0).03, (0).01, {leading zeros not necessary}
(b)		7	1	B1 accept 7.0, 7.00, 7.000 etc
(c)		(0).75	1	B1 leading zero not necessary
(d)		0.07, 0.14, 0.306, 0.35, 0.4	1	B1 leading zeros not necessary
(e)		31/100	1	B1
				<b>Total 5marks</b>

4. (i)		5 (+) 7 (x) 8 or 5 (+) 8 (x) 7	1	B1 Accept either answer
(ii)		2 (-) 6 (÷) 3 or 3 (-) 6 (÷) 2	1	B1 Accept either answer
				<b>Total 2 marks</b>

5. (a)			1	B1	4 circles on each arm + 1 circle in middle. Accept circles with or without dots.
(b)	$3 \times 8 + 1$		25	2	M1 A1
(c)	$(55 - 1) \div 3$ or $55 = 3x + 1$ or $3 \times 18 + 1$		18	2	M1 brackets not necessary A1 sc B1 for awrt 54.7
					<b>Total 5 marks</b>

6. (a)		Trapezium	1	B1	(any recognisable spelling) accept trapezoid
(b)		D and F or F and D	1	B1	
(c)			1	B1	angle marked in correct place in A or C or E and no errors (can be an arc with no label)
(d)			4	1	B1
(e)			10	2	B2 B1 for $8 \leq \text{area} < 10$ or $10 \leq \text{area} \leq 12$ or $5 \times 2$
					<b>Total 6 marks</b>

7. (a) (i)		$32^\circ$	1	B1	
7. (a) (ii)		(vertically) opposite angles (are equal)	1	B1	must have “opposite angles” or “vertically opposite” as minimum (accept abbreviations if meaning is clear). Do not accept amalgamations (“corresponding vertically opposite angles”)
7. (b) (i)		$45^\circ$	1	B1	
7. (b) (ii)		(sum of) angles at a point = $360^\circ$	1	B1	a full turn / circle = $360^\circ$ must mention 360 Ignore calculations if on their own Do not accept “angles add up to $360^\circ$ ”
7. (c)	$(180 - 32) \div 2$	74	2	M1 A1	“148” $\div 2$ N.B. 164 (implied from $180 - 16$ ) on answer line with no working = M1A0
					<b>Total 6 marks</b>

<b>8. (a)</b>	43 – 15		28	2	M1 or 43 and 15 isolated A1
<b>8. (b)</b>	original 10 numbers in correct order (ascending or descending order and can be seen in any part of the question)		32	2	M1 or 30 and 34 isolated A1
<b>8. (c) (i)</b>		Stay the same	1		B1
<b>8. (c) (ii)</b>		middle two numbers are the same / order is the same / 18 is the smallest number / correct new order stated	1		B1 dependent on ci correct
					<b>Total 6 marks</b>

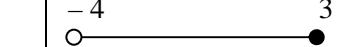
<b>9. (a)</b>		– 4	1	B1
<b>9. (b)</b>		1296	1	B1
<b>9. (c)</b>		31	1	B1
<b>9. (d)</b>		7	1	B1
				<b>Total 4 marks</b>

<b>10. (a)</b>	$6x = 20 - 5$ or $6x = 15$ or $(20 - 5) \div 6$	2.5 oe	2	M1 Brackets not necessary A1 Correct answer with no working = M1A1 sc M1 A0 for 19.16 or better.
<b>10. (b)</b>	$8y - 20 = 30$ or $2y - 5 = 30 \div 4$ $8y = 20 + 30$ or $2y = (30 \div 4) + 5$	6.25 oe	3	M1 M1 for $8y - 20$ A1 dep on M1 awarded otherwise M0A0
				<b>Total 5marks</b>

<b>11. (a)</b>	$600 \times 9.54$		5724	2	M1 A1	
<b>11. (b)</b>	3 hrs 30 mins (+) 8hrs 15 mins or 3.5 (+) 8.25 or 3.30 (+) 8.15  11 (hrs) or 45 mins				M1  B1 A1	both values correctly stated in hours and mins Do not accept 3.30 hrs (+) 8.15 hrs  hrs <u>or</u> mins correct Fully correct answer = M1B1A1
<b>11. (c)</b>	$1470 \div 9.8$		150	2	M1 A1	
						<b>Total 7 marks</b>
<b>12. (a)</b>	$3 \times 2 + 4 \times 6$		30	2	M1 A1	M1 for $3 \times 2$ and $4 \times 6$ or 6 and 24
<b>12. (b) (i)</b>			$7mn$ (oe)	1	B1	no $\times$ signs
<b>12. (b) (ii)</b>			$6y^4$	1	B1	
<b>12. (b) (iii)</b>			$9g - 6h$	2	B2	fully correct final answer. B1 for $9g$ or $-6h$
<b>12. (c)</b>			$6t - 12$	1	B1	accept $6 \times t$ for $6t$
						<b>Total 7 marks</b>
<b>13. (a)</b>	$1 - (0.18 + 0.2 + 0.23 + 0.22)$		0.17	2	M1 A1	$1 - 0.83$
<b>13. (b)</b>	$40 \times 0.2$		8	2	M1 A1	8 out of 40 = M1A1 $8/40 = M1A0$
						<b>Total 4 marks</b>

<b>14. (a)</b>	45/625 x 100		7.2	2	M1 A1
<b>14. (b)</b>	8/100 x 45 (= 3.6) 45 + "3.6"		48.6(0)	3	M1 or M2 for $45 \times 1.08$ M1 dep A1
<b>14. (c)</b>	640 – 625 (= 15) "15" / 625 or "15" / 640		2.4	3	M1 M1 dep A1      640/625 (= 1.024) "1.024" – 1 (= 0.024)      625/640 (= 0.976.. or 0.977) 1 – "0.976" (= 0.0234)
<b>14. (d)</b>	$18 \div 1\frac{1}{3}$ or $18 \div 1.33$ (2dp or better) or $18 \div 80 \times 60$		13.5	3	M2      M1 for $1\frac{1}{3}$ or $18 \div 1.2 (=15)$ or $18 \div 1.3$ (13.8..) or $18 \div 80 (=0.225)$ A1 cao
					<b>Total 11 marks</b>

<b>15. (a)</b>		<b>Q correct</b>		B3	Bottom LH corner goes to (4, -2) If not B3 then B2 for correct size T shape in wrong position but with correct orientation If not B2 then B1 for T shape with 2 or more sides of correct length and correct orientation
<b>15. (b)</b>		<b>R correct</b>		B2	Bottom LH corner goes to (-11, 3) If not B2 then B1 for rotation of $\pm 90^\circ$ (wrong position)
					<b>Total 5 marks</b>
<b>16.</b>	$2y = 6$ or $4x = -6$ oe  $x = -1.5$ $y = 3$			M1	Adding or subtracting correctly or correct substitution leading to one correct equation and one unknown
					A1 A1 dep on M1 awarded otherwise M0A0
					<b>Total 3 marks</b>

<b>17. (a)</b>	$25 < d \leq 30$			1	B1 identifies $25 \rightarrow 30$ class
<b>17. (b)</b>	( $12 \times 2.5$ ) + ( $6 \times 7.5$ ) + ( $4 \times 12.5$ ) + ( $6 \times 17.5$ ) + ( $14 \times 22.5$ ) + ( $18 \times 27.5$ ) (totals: 30, 45, 50, 105, 315, 495)	1040	3	M2 If not M2 then M1 for freq x consistent interval value (890 = freq x lower limit, 1190 = freq x upper limit) or 3 or more correct products stated or evaluated isw if 1040 calculated correctly and correct mean calculation follows ( $1040 \div 60 = 17.3$ or better)	do not have to see intention to add
				A1	
					<b>Total 4 marks</b>
<b>18. (i)</b>	$-2 - 2 < x$ and $x \leq 5 - 2$	$-4 < x \leq 3$	2	M1 A1cao	condone omission/addition of "equals" in inequalities accept $x > -4$ and $x \leq 3$ (both present)
<b>18. (ii)</b>			2	B2 ft	ft for an inequality where range lies between -5 and +5 If not B2ft then B1ft for correct values but wrong shading of end circles
					<b>Total 4 marks</b>
<b>19. (a)</b>	$7.9 \times \cos 38^\circ$ or $7.9 \times \sin 52^\circ$	6.23	3	M2 A1	M1 for $\cos 38^\circ$ or $\sin 52^\circ$ selected $6.2252\dots$ awrt 6.23
<b>19. (b) (i)</b>		37.5	1	B1	
<b>19. (b) (ii)</b>		38.5 or 38.49 rec	1	B1	
					<b>Total 5 marks</b>
					<b>TOTAL: 100 marks</b>

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