



# Mark Scheme (Results)

January 2013

International GCSE Specification A  
(4MA0) Paper 1F

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

## Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at [www.edexcel.com](http://www.edexcel.com) or [www.btec.co.uk](http://www.btec.co.uk) for our BTEC qualifications.

Alternatively, you can get in touch with us using the details on our contact us page at [www.edexcel.com/contactus](http://www.edexcel.com/contactus).

If you have any subject specific questions about this specification that require the help of a subject specialist, you can speak directly to the subject team at Pearson. Their contact details can be found on this link: [www.edexcel.com/teachingservices](http://www.edexcel.com/teachingservices).

You can also use our online Ask the Expert service at [www.edexcel.com/ask](http://www.edexcel.com/ask). You will need an Edexcel username and password to access this service.

## **Pearson: helping people progress, everywhere**

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: [www.pearson.com/uk](http://www.pearson.com/uk)

January 2013

Publications Code UG034733

All the material in this publication is copyright

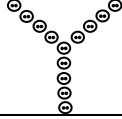
© Pearson Education Ltd 2013

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 ( $\div$ ) 3 or 3 (-) 6 ( $\div$ ) 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 $55 = 3 "x" + 1$ or $3 \times 18 + 1$	18	2	M1 A1	brackets not necessary 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 $10 < \text{area} \leq 12$ 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>

4MA0 | 2013 | January | Paper 1F | GradeMax

8. (a)	43 – 15	28	2	M1 or 43 and 15 isolated A1
8. (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
8. (c) (i)		Stay the same	1	B1
8. (c) (ii)		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>

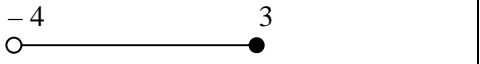
9. (a)		– 4	1	B1
9. (b)		1296	1	B1
9. (c)		31	1	B1
9. (d)		7	1	B1
				<b>Total 4 marks</b>

10. (a)	$6x = 20 - 5$ 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.
10. (b)	$8y - 20 = 30$ or $2y - 5 = 30 \div 4$ $8y = 20 + 30$ or $2y = (30 \div 4) +$	6.25 oe	3	M1 M1 for $8y - 20$ M1 A1 dep on M1 awarded otherwise M0A0
				<b>Total 5marks</b>

11. (a)	$600 \times 9.54$	5724	2	M1 A1	
11. (b)	3 hrs 30 mins (+) 8hrs 15 mins or 3.5 (+) 8.25 or 3.30 (+) 8.15  11 (hrs) or 45 mins	11 (hrs) 45(mins)	3	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
11. (c)	$1470 \div 9.8$	150	2	M1 A1	
					<b>Total 7 marks</b>
12. (a)	$3 \times 2 + 4 \times 6$	30	2	M1 A1	M1 for $3 \times 2$ and $4 \times 6$ or 6 and 24
12. (b) (i)		$7mn$ (oe)	1	B1	no x signs
12. (b) (ii)		$6y^4$	1	B1	
12. (b) (iii)		$9g - 6h$	2	B2	fully correct final answer. B1 for $9g$ or $-6h$
12. (c)		$6t - 12$	1	B1	accept $6 \times t$ for $6t$
					<b>Total 7 marks</b>
13. (a)	$1 - (0.18 + 0.2 + 0.23 + 0.22)$	0.17	2	M1 A1	$1 - 0.83$
13. (b)	$40 \times 0.2$	8	2	M1 A1	8 out of 40 = M1A1 $8/40 = M1A0$
					<b>Total 4 marks</b>

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

15. (a)			Q correct		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	
15. (b)			R correct		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>		
16.	$2y = 6$ or $4x = -6$ oe		$x = -1.5$ $y = 3$	3	M1 A1 A1 dep on M1 awarded otherwise M0A0	Adding or subtracting correctly or correct substitution leading to one correct equation and one unknown	
					<b>Total 3 marks</b>		

17. (a)		$25 < d \leq 30$	1	B1 identifies 25 →30 class
17. (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 do not have to see intention to add  A1 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)
				<b>Total 4 marks</b>
18. (i)	$-2 - 2 < x$ and $x \leq 5 - 2$	$-4 < x \leq 3$	2	M1 condone omission/addition of “equals” in inequalities A1cao accept $x > -4$ and $x \leq 3$ (both present)
18. (ii)			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>
19. (a)	$7.9 \times \cos 38^\circ$ or $7.9 \times \sin 52^\circ$	6.23	3	M2 M1 for $\cos 38^\circ$ or $\sin 52^\circ$ selected A1 6.2252... awrt 6.23
19. (b) (i)		37.5	1	B1
19. (b) (ii)		38.5 or 38.49 rec	1	B1
				<b>Total 5 marks</b>
				<b>TOTAL: 100 marks</b>

Further copies of this publication are available from  
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467  
Fax 01623 450481  
Email [publication.orders@edexcel.com](mailto:publication.orders@edexcel.com)  
Order Code UG034733 January 2013

For more information on Edexcel qualifications, please visit our website  
[www.edexcel.com](http://www.edexcel.com)

Pearson Education Limited. Registered company number 872828  
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

