



Mark Scheme (Results)

Summer 2025

Pearson Edexcel International GCSE
In Mathematics A (4WM2F) Paper 01R

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. 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 or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. 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

Summer 2025

Question Paper Log Number P81636

Publications Code 4WM2F_01R_2506_MS

All the material in this publication is copyright

© Pearson Education Ltd 2025

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme.
Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

- **Types of mark**

- M marks: method marks
- A marks: accuracy marks
- B marks: unconditional accuracy marks (independent of M marks)

- **Abbreviations**

- cao – correct answer only
- ft – follow through
- isw – ignore subsequent working
- SC - special case
- oe – or equivalent (and appropriate)
- dep – dependent
- indep – independent

- awrt – answer which rounds to
- eooo – each error or omission

- **No working**

If no working is shown then correct answers normally score full marks

If no working is shown then incorrect (even though nearly correct) answers score no marks.

- **With working**

If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.

If it is clear from the working that the “correct” answer has been obtained from incorrect working, award 0 marks.

If a candidate misreads a number from the question. Eg. Uses 252 instead of 255; method marks may be awarded provided the question has not been simplified. Examiners should send any instance of a suspected misread to review. If there is a choice of methods shown, mark the method that leads to the answer on the answer line; where no answer is given on the answer line, award the lowest mark from the methods shown. If there is no answer on the answer line then check the working for an obvious answer.

- **Ignoring subsequent work**

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: eg. Incorrect cancelling of a fraction that would otherwise be correct.

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect eg algebra.

Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

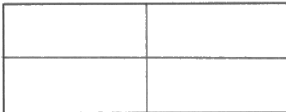
- **Parts of questions**

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded to another.

International GCSE Mathematics				
Values in quotation marks must come from a correct method previously seen unless clearly stated otherwise.				
Question	Working	Answer	Mark	Notes
1 (a)		48	1	B1 for 48 or “forty-eight” written in words (condone incorrect spelling if meaning is clear) Do not accept any other number If the answer space is empty award the mark for 48 written in the top row of the table in the question, provided 48 is the only number written there
(b)		6	1	B1 for 6 or “six” written in words (condone incorrect spelling if meaning is clear)
(c)		1 and $\frac{1}{4}$ squares in the fourth row of the pictogram	1	B1 Allow 5 separate small squares Only accept in the fourth row of the pictogram
(d)	6 : 9 oe		2	M1 correct equivalent ratio Accept 3 : 2 for this mark only
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	2 : 3		A1 Accept 1 : 1.5 oe or $\frac{2}{3}$: 1 oe, including 0.66 : 1 or 0.67 : 1 or better
				Total 5 marks

2	(a)		9	1	B1 cao
	(b)	2 4 6 7 9 9 10 or 10 9 9 7 6 4 2		2	M1 For ordering the numbers Allow one error or one omission
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	7		A1
	(c)		8	1	B1 cao
					Total 4 marks

3	(a)		32	1	B1 for 32 or “thirty-two” written in words (condone incorrect spelling if meaning is clear) If the answer space is empty award the mark for 32 written next to or above or below the arrow in the diagram, provided 32 is the only number written there
	(b)		4.6 correctly marked	1	B1 allow to within ± 0.25 of a division Accept other types of mark that clearly indicate the required value, eg a cross
					Total 2 marks

4	(a)(i)		chord	1	B1 for “chord” or any misspelling which sounds similar, eg “cord” Some or all letters can be capitals Award the mark if the word appears in a sentence unless the sentence contradicts “chord” as the only answer
	(ii)		segment	1	B1 for “segment” or any misspelling which sounds similar, eg “segment” Some or all letters can be capitals Award the mark if the word appears in a sentence unless the sentence contradicts “segment” as the only answer Note: “minor segment” is also correct
	(b)		2 correct lines of symmetry	1	B1 must be only two lines drawn on the diagram, or two lines clearly selected as the answer, be tolerant of some imprecision if intention is clear
	(c)		2	1	B1 for 2 or “two” written in words (condone incorrect spelling if meaning is clear)
					Total 4 marks

5	(a)		25	1	B1 cao may be written near the printed sequence
	(b)		Correct explanation	1	B1 eg 'added 4', 'add 4', +4, $21 + 4 (=25)$, rule is $4n + 1$, goes up by 4, $9 - 5 (= 4)$, $4 \times 6 + 1 (= 25)$, (common) difference is 4 Ignore additional incorrect work or comments
	(c)		41	1	B1 cao
	(d)		Correct explanation	1	B1 a correct explanation eg (i) it is an even number/not an odd number (ii) $50 = 4n + 1$ and n is not a whole number or it is a decimal/fraction (iii) sequence is odd or $5 + 4m$ is odd (iv) sequence goes 49, 53 or first term 50 or more is 53 (v) 12 th term is 49 or 41, 45, 49 or 49 and 'add 4' (vi) $50 = 41 + 9$ and 9 is not a multiple of 4 Do not accept eg 'adding 4 does not get to 50' Any values stated must be correct
					Total 4 marks

6	(a)		correct diagram	1	B1 right-angle triangle with sides 2 and 3, both lengths accurate to within the thickness of their lines
	(b)		29 – 33	1	B1 for an answer in the range 29 to 33, which could be a decimal answer, eg 30.5, also allowing a comma instead of a decimal point, eg 30,5 Accept the answer written with a degree symbol, eg 31°, or allow with the word “degrees”, allowing reasonable misspellings If the answer space is empty, allow for an acceptable answer in the range, written on the diagram, as long as there is not another answer that is outside the range
	(c)		correct line	1	B1 allow a line of length 63 – 67 mm
					Total 3 marks

7	(a)		5de	1	B1 allow factors in any order, eg d5e Do not accept with multiplication symbol
	(b)		18mk	1	B1 allow factors in any order, eg m18k, but there must be a factor of 18
	(c)		10n	1	B1 Allow $10 \times n$ or $n \times 10$ or $n10$ or $10 + (n - 1) \times 10$ oe May be in an equation, eg $T_n = 10n$
					Total 3 marks

8	$12 \times 8 \times 5 (= 480)$ or $48 \times 16 \times 15 (= 11\,520)$	$48 \div 12 (= 4)$ or $16 \div 8 (= 2)$ or $15 \div 5 (= 3)$		3	M1 the volume of the box or a parcel or the number of parcels along one edge
	“11 520” $\div$ “480”	“4” $\times$ “2” $\times$ “3”			M1 divide their volumes or multiply the numbers of parcels along each edge
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>		24		A1 cao
					Total 3 marks

9	$150 \div 2 (= 75)$ or $5 \times 7 (= 35)$ or $(150 + 5 \times 2) \div 2 (= 80)$		3	M1 for a method to find the cost of the room without tax for 1 night or for a method to find the total cost of the tax for 7 nights or for a method to find the total cost of the room and the tax for 1 night
	$7 \times \text{“75”} + \text{“35”} (= 525 + 35)$ or $(\text{“75”} + 5) \times 7$ or $\text{“80”} \times 7$			M1 for a complete method to find the total cost of the room and the tax for 7 nights
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	560		A1
				Total 3 marks

10	(a)	[8.8, 9.2] × 5000 (= [44 000, 46 000]) or 5000 ÷ 1000 (= 5) Or any value ÷ 1000		3	M1 for measuring the line (±0.2cm tolerance, 8.8 cm to 9.2 cm) and using the scale or for an attempt to convert a value into kilometres Do not allow any seen value ÷ 1000 if clearly linked to the wrong unit, eg mm
		["44 000", "46 000"] ÷ 1000 or [8.8, 9.2] × "5"			M1 for use of scale and conversion
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	45		A1 allow 44 – 46, must agree with their measurement
	(b)		4 (hours) 25 (minutes)	2	B2 for 4 (hours) and 25 (minutes) (B1 for 4 (hours) or 25 (minutes))
					Total 5 marks

11		$\frac{14}{7}$ (= 2) or $\frac{5}{7} \times 14 = (10)$ or $\frac{4}{7} \times 14 = (8)$ or any correct value marked on the vertical axis		3	M1 for working with the scale
		"10" × 3 (=30) or $5 \times 3 + 7 \times 1$ (= 15 + 7 = 22) or $5 \times 3 + 14$ (= 15 + 14 = 29)			M1 for a method to find the number of points won or for a method to work out the total number of points using a vertical scale of 1 game per cm Note: M0M1 is possible
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	44		A1
					Total 3 marks

12	(a)	450 ÷ 90 (= 5) oe or 90 ÷ 6 (= 15) oe		2	M1 for a method to find the number of batches of 6 biscuits made or the amount of flour needed per biscuit
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	30		A1
	(b)	84 ÷ 6 (= 14) oe or 75 ÷ 6 (= 12.5) oe		2	M1 for a method to find the number of batches of 6 biscuits made or the amount of butter needed per biscuit
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	1050		A1
	(c)	624 ÷ (3 + 5) (= 78) oe or $624 \times \frac{3}{3+5}$ (= 234) or $624 \times \frac{5}{3+5}$ oe		2	M1 for a method to find the value of one part of the ratio or for a method to find the value of three parts or for a complete method
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	390		A1
					Total 6 marks

13	(a)	5×3 and $\pm 8 \times -4$ or 15 and ± 32 oe		2	M1 both values correctly substituted but terms can be separate
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	47		A1
	(b)	$c - h = 8r$ or $-8r = h - c$ or $\frac{c}{8} = r + \frac{h}{8}$		2	M1 correct first step either making $\pm 8r$ the subject or dividing through by 8
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	$r = \frac{c - h}{8}$		A1 oe eg $r = \frac{h - c}{-8}$ or $r = \frac{c}{8} - \frac{h}{8}$
	(c)		$T = 12n + 25p$	3	B3 cao allowing upper/lower case If not B3 B2 for $12n + 25p$ or $T = an + 25p$ or $T = 12n + b$ where a and $b \neq 0$ If not B2 then B1 for $an + 25p$ or $12n + b$ or $T = 12n$ or $T = 25p$ or for $T =$ an incorrect expression in n and p eg $T = n + p$, $T = n \times p$ etc ignore any units
					Total 7 marks

14	6, 12, 18, 24 and 8, 16, 24 or a multiple of 24 or $(6 \times 8 =) 48$ or $2^3 \times 3$ (from Venn diagram or table) or $\begin{array}{r} 6 \times 8 \\ \hline 2 \end{array}$	(3.45), 3.51, 3.57. 4.03, 4.09 or (3.45), 3.53, 4.01, 4.09		3	M1 for at least two multiples of 6 and 8 or a multiple of 24 or for one correct time list to 4.09 or later (condone one arithmetic error)
	24	(3.45), 3.51, 3.57. 4.03, 4.09 and (3.45), 3.53, 4.01, 4.09			M1 for identifying 24 as LCM or two correct time lists to 4.09 or later (condone one arithmetic error in one list)
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>		4 09		A1 oe eg 16 09 If no marks awarded then SCB1 for their LCM + 3.45 correctly calculated
					Total 3 marks

15	(a)	0.35×500 oe eg $50 + 50 + 50 + 25$		2	M1 for method to find the required percentage
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	175		A1
	(b)	$\frac{6}{100} \times 40\,000 (= 2400)$ oe		3	M1 for method to find Layan's bonus on \$40 000
		$\frac{8}{100} \times (65\,000 - 40\,000) (= 2000)$ oe			M1 for method to find Layan's bonus above \$40 000
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	4400		A1
					SCB1 correct method but using 0.6 and 0.8
					Total 5 marks

16	(a)		$8 < w \leq 12$	1	B1	Allow $8 - 12$ or $8 < w < 12$ or $8 \leq w \leq 12$ or $8 \leq w < 12$
	(b)	$6 \times 5 + 10 \times 17 + 14 \times 15 + 18 \times 9 + 22 \times 4$ $(= 660)$ or $30 + 170 + 210 + 162 + 88 (= 660)$ [lower bound products: 20, 136, 180, 144, 80] [upper bound products: 40, 204, 240, 180, 96]		4	M2	for at least 4 correct products added (need not be evaluated) If not M2 then award: M1 for consistent use of values within the intervals (including end points) for at least 4 products using the corresponding frequencies from the given table, which must be added or correct midpoints used for at least 4 products with the corresponding frequencies from the table, and may not be added
		"660" $\div$ "50"			M1	dep their sum of products scoring at least M1 Allow division by their Σf provided addition or total under column seen
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	13.2		A1	Allow 13 only from correct working Accept $\frac{66}{5}$ or $13\frac{1}{5}$
					Total 5 marks	

17	eg $2 \times 2 \times 350$ or $2 \times 7 \times 100$ or $2 \times 5 \times 140$ or $5 \times 5 \times 56$ or $7 \times 5 \times 40$ or $(14 \times 100 = 14 \times 25 \times 4 =) 2 \times 7 \times 25 \times 4$		3	M1	for finding 2 prime factors after at least 2 stages of prime factorisation with 0 incorrect stages or for finding 2 prime factors after at least 3 stages of prime factorisation with no more than 1 incorrect stage Each stage gives 2 factors – may be in a factor tree or a table or listed (see LHS for examples of the amount of work needed for the award of this mark) but we want to see 2 prime factors. Example of finding 2 prime factors after at least 3 stages with 1 incorrect stage: $1400 = 10 \times 14 = 2 \times 5 \times 2 \times 7$										
	eg <table border="1"><tr><td>2</td><td>1400</td></tr><tr><td>2</td><td>700</td></tr><tr><td></td><td>350</td></tr></table>			2	1400	2	700		350	eg <pre> 1400 / \ 2 700 / \ 2 350</pre>		M1	dep on M1 for factors 2, 2, 2, 5, 5, 7 identified with no others in any form, eg listed, multiplied, added Ignore 1s May be seen in a fully correct factor tree or ladder		
	2	1400													
	2	700													
	350														
eg $2 \times 2 \times 2 \times 5 \times 5 \times 7$															
eg <table border="1"><tr><td>2</td><td>1400</td></tr><tr><td>2</td><td>700</td></tr><tr><td>2</td><td>350</td></tr><tr><td>5</td><td>175</td></tr><tr><td>5</td><td>35</td></tr><tr><td></td><td>7</td></tr></table>		2	1400	2	700	2	350	5	175	5	35		7	eg <pre> 1400 / \ 2 700 / \ 2 350 / \ 2 175 / \ 5 35 / \ 5 7</pre>	
2	1400														
2	700														
2	350														
5	175														
5	35														
	7														
Working required		$2^3 \times 5^2 \times 7$	A1	dep on M2 May be in any order and allow $2^3 \cdot 5^2 \cdot 7$											
Total 3 marks															

18	eg $\begin{array}{r} 3x + 2y = 10 \\ - 3x - 4y = 16 \end{array}$ (6y = − 6) or eg $3\left(\frac{10 - 2y}{3}\right) - 4y = 16$ or $3\left(\frac{16 + 4y}{3}\right) + 2y = 10$ or 6y = − 6 oe	Eg $\begin{array}{r} 6x + 4y = 20 \\ + 3x - 4y = 16 \end{array}$ (9x = 36) or eg $3x - 4\left(\frac{10 - 3x}{2}\right) = 16$ or $3x + 2\left(\frac{3x - 16}{4}\right) = 10$ or 9x = 36 oe		3	M1 a correct method to eliminate x or y: coefficients of x or y are the same and the correct operation to eliminate is selected; if operator not written, the correct operation can be implied by 2 out of 3 terms correct Allow one arithmetic error if multiplying to equate coefficients or for a correct substitution of one variable into the other equation NB: the mark is for the method and not for the result of the method. However, if the correct result of this method is seen, the mark can be awarded
	3x + 2 × “−1” = 10 or 3x − 4 × “−1” = 16 or $x = \frac{10 - 2 \times "-1"}{3}$ or $x = \frac{16 + 4 \times "-1"}{3}$	3 × “4” + 2y = 10 or 3 × “4” − 4y = 16 or $y = \frac{10 - 3 \times 4}{2}$ or $y = \frac{3 \times "4" - 16}{4}$			M1 dep on M1 a correct substitution to find the value of the second variable using their value or for starting again with elimination or substitution (as above)
	Working required		x = 4 y = −1		A1 dep on M1
					Total 3 marks

19	(a)		Vertices at (-4, 3) (-1, 3) (-1, 5)	2	B2 for a fully correct triangle with correct orientation and in the correct position If not B2 then B1 for a correct triangle drawn with correct orientation in wrong position or 2 or 3 points plotted correctly
	(b)	Allow eg translated translating translate Allow misspelling of the word eg translat	Translation	2	B1 for <u>translation</u> with no other transformation stated, eg reflection, rotation, enlargement, mirrored, turned or flipped, etc Move with translation is acceptable
			$\begin{pmatrix} -9 \\ 3 \end{pmatrix}$		B1 for sight of the vector $\begin{pmatrix} -9 \\ 3 \end{pmatrix}$ Do not accept alternative descriptions that combine two translations, eg left 9, up 3 Allow missing brackets but not (-9, 3)
					Total 4 marks

20	$45 \div 1.5 (= 30)$ or $5 \times 12 (= 60)$ or $\frac{64}{1.5} \left(= \frac{128}{3} = 42.6(6\ldots) \right)$		5	M1	for a method to find the number of boxes needed or the cost of adhesive or cost of tiles per m ²
	"30" $\times$ 64 (= 1920) or "42.6(6...)" $\times$ 45 (=1920)			M1	for a method to find the cost of the boxes of tiles
	"1920" + "60" (= 1980) or 3000 – 1920 – 60 (=1020)			M1	for a method to find the total cost or the profit
	eg $\frac{3000 - \text{"1980"}}{\text{"1980"}} (= 0.515\ldots)$ or $\frac{3000 - \text{"1980"}}{\text{"1980"}} \times 100$ or $\frac{3000}{\text{"1980"}} (= 1.515\ldots)$ or $\frac{3000}{\text{"1980"}} \times 100 (= 151.5\ldots)$ or $\frac{3000}{\text{"1980"}} \times 100 - 100$			M1	for a method to find the percentage profit or be one step away
	Correct answer scores full marks (unless from obvious incorrect working)	51.5		A1	awrt 51.5 SCB3 for answer 56.3 or 56.25 (from use of 1920 instead of 1980 as total cost)
				Total 5 marks	

21	(a)		8.2×10^7	1	B1 allow trailing zeroes in the mantissa
	(b)		0.000 005 8	1	B1 allow trailing zeroes
	(c)		1.6×10^{302}	1	B1 allow trailing zeroes in the mantissa
					Total 3 marks

22	$60 \times 7 (= 420)$ or $46 \times 3 (= 138)$		3	M1	may be embedded within an equation
	“420” – “138” (= 282)			M1	for a method to find the sum of the 4 numbers Allow this mark if they do further incorrect work using 282
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	70.5		A1	allow $\frac{141}{2}$ oe eg $\frac{282}{4}$ eg $70\frac{1}{2}$
					Total 3 marks

23	$1 - 0.15 (= 0.85)$ or $100(\%) - 15(\%) (= 85(\%))$ or $\frac{612}{85} (= 7.2)$ oe		3	M1	may be seen embedded Do not allow $(1 - 15\%)$ unless processed correctly
	$612 \div \text{“}0.85\text{”}$ oe or $612 \div \text{“}85\text{”} \times 100$ oe or $\text{“}7.2\text{”} \times 100$			M1	for a complete method
	<i>Correct answer scores full marks (unless from obvious incorrect working)</i>	720		A1	
					Total 3 marks

24	(a)	$3x - 8x > -40 + 22$ or $-22 + 40 > 8x - 3x$		3	M1 for a line of working with x terms and numerical terms correctly collected on opposite sides, may be unsimplified Condone = rather than $>$ or any other inequality symbol for this mark
		$-5x > -18$ or $18 > 5x$ or $-18 < -5x$ or $5x < 18$			M1 for correctly simplifying x terms and constants on opposite sides as shown opposite Condone = rather than $>$ or any other inequality symbol for this mark Implies previous M1 when this is their first step
		<i>Working required</i>	$x < \frac{18}{5}$		A1 oe dep on M1 accept $\frac{18}{5} > x$ Must have correct inequality symbol on answer line Sight of correct answer in working space and $(x =) \frac{18}{5}$ oe on answer line gains M2 only
	(b)		$x \geq 2$	3	B1 oe eg $2 \leq x$
			$y \geq 1$		B1 oe eg $1 \leq y$
			$x + y \leq 6$		B1 oe eg $y \leq 6 - x$ Allow $<$ and $>$ for $\leq$ and $\geq$ respectively SC B2 for all symbols reversed, eg $x \leq 2, y \leq 1$ and $x + y \geq 6$ SC B1 for the correct equations of the lines stated, eg $x = 2, y = 1, x + y = 6$ (this is given)
					Total 6 marks

25	$(10 - 2) \times 180 (= 1440)$ or $8 \times 180 (= 1440)$ or $(6 - 2) \times 180 (= 720)$ or $4 \times 180 (= 720)$ or $360 \div 10 (= 36)$		5	M1 for correct method to find total interior angle of either shape, or the exterior angle of the decagon provided it is not used as an interior angle, eg in the diagram
	$"1440" \div 10 (= 144)$ or $"720" - 113 - 120 - 129 - 121 - 127 (= 110)$ or $180 - "36" (= 144)$			M1 for method to find an unknown interior angle of either shape using their value provided it is not used as an exterior angle, eg in the diagram Implies the previous M1
	$"1440" \div 10 (= 144)$ and $"720" - 113 - 120 - 129 - 121 - 127 (= 110)$			M1 for method to find the unknown interior angles in both shapes
	$360 - "144" - "110"$ or $(180 - "144") + (180 - "110")$ or $36 + 70$			M1 for method to find the required angle using their values
	<i>Working required</i>	106		A1 dep on M3
				Total 5 marks

