



**General Certificate of Secondary Education
Practice Paper
Set 4**

Mathematics (Linear) B

Paper 1 Higher Tier 4365/1H

Mark Scheme

Mark Schemes

Principal Examiners have prepared these mark schemes for practice papers. These mark schemes have not, therefore, been through the normal process of standardising that would take place for live papers.

Copyright © 2012 AQA and its licensors. All rights reserved.

COPYRIGHT

AQA retains the copyright on all its publications. However, registered centres for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to centres to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Set and published by the Assessment and Qualifications Alliance.

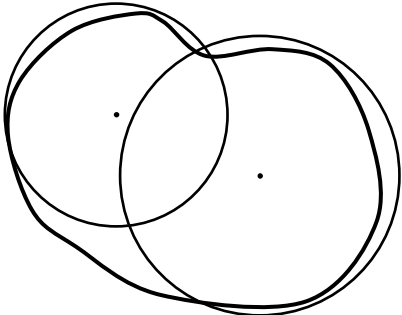
Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

M	Method marks are awarded for a correct method which could lead to a correct answer.
A	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
B	Marks awarded independent of method.
Q	Marks awarded for quality of written communication. (QWC)
M Dep	A method mark dependent on a previous method mark being awarded.
B Dep	A mark that can only be awarded if a previous independent mark has been awarded.
ft	Follow through marks. Marks awarded following a mistake in an earlier step.
SC	Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
oe	Or equivalent. Accept answers that are equivalent. eg, accept 0.5 as well as $\frac{1}{2}$

Paper 1 Higher Tier

Q	Answer	Mark	Comments
1	Triangle at (1, 2), (-1, 2) and (-1, 3)	B2	B1 For reflection in $y = 1$ or $x = 1$ drawn
2	$6x - 2x$ or $-5 - 9$	M1	
	$4x = -14$	A1	
	-3.5	A1	oe
3	13 and 16	B3	Allow values wrong way round Part marks to a maximum of 2 B1 For 29 – any square or prime B1 For list of primes up to 20 B1 For list of squares up to 20
*4	Identifies probabilities for chocolate bar etc for either spinner	M1	
	Multiplies equivalent probabilities together	M1	
	$\frac{1}{12} + \frac{1}{12} + \frac{1}{12}$	A1	
	$\frac{1}{4}$ and all the above stages seen	Q1	Strand (iii)
*4 Alt	Fill in table with appt symbols or words	M1	
	Identifies all winning combinations	M1	
	3 and 12 seen	A1	
	$\frac{1}{4}$ and all the above stages seen	Q1	Strand (iii)
5(a)	$5x - 15$	B1	
5(b)	$3(y - 4)$	B1	
5(c)	$6w + 4 + 15w - 3$	M1	Allow one arithmetic error
	$21w + 1$	A1	

Q	Answer	Mark	Comments
6(a)	10×11 or $5 \times [22 \text{ to } 23]$	M1	Any value read from graph and multiplied by the correct coefficient
	[110 to 115]	A1	
6(b)	$100 \div 10 (= 10)$	M1	
	Line on graph from their 10	M1	
	[22 to 23]	A1	
7(a)	Correct plots	B2	B1 3 or 4 correct
7(b)	Negative	B1	
7(c)	'the less time revising and more TV watching means lower marks' or 'the data is not about revising so does not support the headteacher's view'	B1	oe
7(d)	LOBF and line (or mark) from 60	M1	
	1.25	A1 ft	ft Their line
8(a)	432	B1	
8(b)	888	B1	
8(c)	240	B1	
9	Circle drawn with radius 4 cm centre A	B1	
	Circle drawn with radius 5 cm centre B	B1	
	No as some areas on island not covered by circles 	B1	

Q	Answer	Mark	Comments
10(a)	14%	B1	Allow missing %
10(b)	25%	B1	$\frac{1}{5} = 20\%$
	Road A and $25\% > 20\%$ or $\frac{1}{4} > \frac{1}{5}$	Q1	Strand (ii) Must make a comparison
11	Tap B 200 in 6 minutes	M1	
	Tap A and B 300 in 6 minutes	M1	
	2 minutes	A1	
11 Alt	Tap A 50 in 3 minutes	M1	
	Tap A and B 150 in 3 minutes	M1	
	2 minutes	A1	
12	Any of $\pi \times 4^2$ or $\pi \times 2^2$	M1	
	$\pi \times (4^2 - 2^2)$	M1	oe
	12π	A1	
13	Correct region identified and all lines drawn	B3	B2 If two lines drawn and correct side of each identified B1 If one line drawn and correct side of line identified

Q	Answer	Mark	Comments
14	$4x + 3(2x - 4) = 3$	M1	
	$10x - 12 = 3$	A1	
	$x = 1.5$	A1	
	$y = -1$	A1	
14 Alt	$-2x + y = -4$ and an attempt to eliminate balance one variable, ie $-4x + 2y = -8$ or $-6x + 3y = -12$	M1	
	Attempt to eliminate a variable, ie $5y = -5$ or $10x = 15$	M1	
	$x = 1.5$	A1	
	$y = -1$	A1	
15	$(ax + p)(bx + q)$	M1	$ab = 6$ and $pq = \pm 12$
	$(2x - 3)(3x + 4)$	A1	
	1.5 and -1.33	A1 ft	ft Their brackets if M awarded
16	$ABD = 40$	B1	
	$BAD = 70$	B1	
	$BCD = 110$	B1ft	ft $180 - \text{their } 70$
	$CDB = 40$	B1	
	$CBD = 30$	B1ft	ft Their 110
17	Linear sf = 2	B1	$16xy$ and $2xy$
	$120 \div 8$	M1	
	15	A1	
Alt 17	Any values for x and y that give a volume of 120	B1	$16xy = 120$
	Their $x \times \text{their } y \times 2$	M1	
	15	A1	

Q	Answer	Mark	Comments
18	Any width \times any fd	M1	
	9, 8, 16, 12, 9, 6	M1	Allow one error
	60	A1	
19	$\frac{1}{27}$	B2	B1 For 3 or 3^3
20	$a = 4$	B1	
	$3 = 16 + b$	M1	
	$b = -13$	A1	
Alt 20	$x^2 - 2ax + a^2 + b$	M1	
	$a = 4$	M1	
	$b = -13$	A1	
21(a)	Graph approximately same shape as given symmetrical about y -axis and at least 2 mm below origin	B1	
21(b)	Graph symmetrical about y -axis passing through origin and narrower than the given graph	B1	