



Pearson
Edexcel

Mark Scheme (Results)

January 2024

Pearson Edexcel Level 2 Award
In Algebra (AAL20)
Paper 01

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NOTES ON MARKING PRINCIPLES

1 **Types of mark**

M marks: method marks

A marks: accuracy marks

B marks: unconditional accuracy marks (independent of M marks)

2 **Abbreviations**

cao – correct answer only

isw – ignore subsequent working

oe – or equivalent (and appropriate)

indep - independent

ft – follow through

SC- special case

dep – dependent

3 **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.

4 **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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.

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

Send the response to review, and discuss each of these situations with your Team Leader.

If there is no answer on the answer line then check the working for an obvious answer.

Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.

If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

6 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: e.g. 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 e.g. algebra.

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

7 Parts of questions

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

8 Use of ranges for answers

If an answer is within a range this is inclusive, unless otherwise stated.

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Question		Working	Answer	Mark	Notes
1	(a)		x	1	B1 for x or $1x$
	(b)		$15p^3$	2	M1 for 15 or p^3 correct in a product A1 cao
	(c)		u^5	1	B1 cao
	(d)		g^5	1	B1 cao
	(e)		$16t^{12}$	2	M1 for 16 or t^{12} correct in a product A1 cao
2			B, E, C, D, A	3	B3 diagrams may be annotated (B2 for 3 or 4 correct B1 for 2 correct)
3	(a)		$h(1 - h)$	1	B1 cao
	(b)		$2pt(4t + 5p)$	2	B2 for $2pt(4t + 5p)$ (B1 for correct partial factorisation with 3 factors, $2t(4pt + 5p^2)$, $2p(4t^2 + 5pt)$, $pt(8t + 10p)$ may be seen in working.)

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Question		Working	Answer	Mark	Notes
4	(a)		6	2	M1 for a correct first step, subtracting 2 from both sides or dividing throughout by 3, eg $3k = 20 - 2$ A1 cao
	(b)		16	2	M1 for adding 3 to both sides or multiplying throughout by 2, eg $\frac{w}{2} = 5 + 3$ or $w - 6 = 10$ A1 cao
	(c)		-2	3	M1 for multiplying out the bracket or dividing both sides by 4 eg $4y - 8 = -16$ or $y - 2 = \frac{-16}{4}$ M1 for isolating terms in y, eg $4y = -16 + 8$ A1 cao
5	(a)		47, 44, 41	2	M1 for subtraction of 3 to obtain the next term A1 cao
	(b)		$6n + 4$	2	M1 for $6n (+ c)$ A1 for $6n + 4$ oe
6	(a)		$14q + 10$	2	M1 for 1 out of 2 terms correct, working may be seen in separate areas A1
	(b)		$8u^2 - 12u^3$	2	M1 for 1 term out of 2 terms correct, working may be seen in separate areas A1

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Question		Working	Answer	Mark	Notes
7			Expression Equation Formula Formula	3	B3 all correct answers (B2 for 3 correct answers B1 for 1 or 2 correct answers)
8	(a)		8	2	M1 for use of gradient, eg $2 \div \frac{1}{4}$ (hr) or $2 \div 15$ (mins) A1 cao
	(b)		Line drawn	1	B1 for line drawn from (2:15, 2) to (2:20, 2)
	(c)		Line drawn	2	M1 for method to find distance, eg $6 \div 4 = 1.5$ or for line with gradient 6 drawn from ("2:20", 2) A1 for line drawn from (2:20, 2) to (2:35, 3.5)

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Question	Working	Answer	Mark	Notes																		
9	<table border="1" data-bbox="347 359 705 438"> <tr> <td>x</td> <td>-3</td> <td>-2</td> <td>-1</td> <td>0</td> </tr> <tr> <td>y</td> <td>-12</td> <td>-9</td> <td>-6</td> <td>-3</td> </tr> </table> <table border="1" data-bbox="347 475 683 555"> <tr> <td>x</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td>0</td> <td>3</td> <td>6</td> </tr> </table> <p data-bbox="347 667 392 699">OR</p> <p data-bbox="347 742 571 774">Using $y = mx + c$</p> <p data-bbox="347 817 504 849">gradient = 3</p> <p data-bbox="347 853 548 885">y intercept = -3</p>	x	-3	-2	-1	0	y	-12	-9	-6	-3	x	1	2	3	y	0	3	6	<p data-bbox="795 335 974 438">Straight line from (-3, -12) to (3, 6)</p>	3	<p data-bbox="1108 335 1344 367">(Table of values)</p> <p data-bbox="1108 375 2116 478">M1 for a correct method to find at least 2 points by substituting values of x M1 (dep) ft for plotting at least 2 of their points (any points plotted from their table must be correctly plotted)</p> <p data-bbox="1108 486 1680 518">A1 for correct line between $x = -3$ and $x = 3$</p> <p data-bbox="1108 558 1377 590">(No table of values)</p> <p data-bbox="1108 598 2139 662">M2 for at least 2 correct points and no incorrect points plotted OR line segment of $y = 3(x - 1)$ drawn (ignore any additional incorrect segments)</p> <p data-bbox="1108 670 2004 702">(M1 for at least 3 correct points with no more than 2 incorrect points)</p> <p data-bbox="1108 710 1680 742">A1 for correct line between $x = -3$ and $x = 3$</p> <p data-bbox="1108 782 1366 813">(Use of $y = mx + c$)</p> <p data-bbox="1108 821 2027 885">M2 line segment of $y = 3(x - 1)$ drawn (ignore any additional incorrect segments)</p> <p data-bbox="1108 893 2139 957">(M1 for line drawn with gradient of 3 OR line drawn with y intercept of -3 and a positive gradient)</p> <p data-bbox="1108 965 1680 997">A1 for correct line between $x = -3$ and $x = 3$</p>
x	-3	-2	-1	0																		
y	-12	-9	-6	-3																		
x	1	2	3																			
y	0	3	6																			

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Question		Working	Answer	Mark	Notes
10	(a)		Integer greater than 2	1	B1 for 1 correct value and no incorrect values
	(b)		$-4 < y \leq 1$	2	B2 for $-4 < y \leq 1$ (B1 for $-4 < y$ or $y \leq 1$) NB Accept the use of any letter other than y and ignore attempts to list integer values
	(c)		Correct diagram	2	B2 fully correct answer (B1 for 2 out of 3 aspects <ul style="list-style-type: none"> • circle drawn at 1 • filled circle • indication of continuous line to the left)
	(d)		$t < 3.5$	2	M1 for isolating terms in t or for a critical value of 3.5 A1 oe
11			Sketch	3	B1 for general shape (parabola with correct orientation in first two quadrants) B1 for symmetry about y -axis B1 for y intercept labelled at (0, 1)
12	(a)		$4x$	1	B1 for $4x$ oe

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Question		Working	Answer	Mark	Notes
	(b)		$5x - 3$	2	M1 ft (a) for $4x + x - 3$ A1 for $5x - 3$
	(c)		$3x + 3$	2	M1 ft (a) for $4x - (x - 3)$ A1 cao
13	(a)		4200	1	B1 cao
	(b)		1993	1	B1 for 1993 (accept 1994)
	(c)		2400	2	M1 for correct method to find the difference with at least 1 correct reading, eg $4700 - 2300$ A1 for 2400
	(d)		2000 to 2010	1	B1 for period 2000 – 2010, may be expressed in different ways
14	(a)		23	2	M1 for substituting $g = 20$, may be seen in working or in flow chart A1 cao

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Question	Working	Answer	Mark	Notes
(b)		$\frac{8}{5}$	3	M1 for $0 = \frac{5g}{4} - 2$ M1 for a second step, eg $0 + 2 = \frac{5g}{4}$ A1 oe
(c)		$g = \frac{4(f+2)}{5}$	3	M1 for a first step to rearrange, eg $f + 2 = \frac{5g}{4}$ M1 for a second step, eg $4(f + 2) = 5g$ A1 oe
15	(a)	4, 0, (-2), -2, 0, (4)	2	B2 for all 4 missing values correct (B1 for 2 or 3 missing values correct)
	(b)	Curve drawn	2	M1 (dep B1) for plotting their points A1 for correct curve between $x = -1$ and $x = 4$
	(c)	-0.8 and 3.8	2	M1 for using $y = 3$, may be shown on graph or one correct value A1 for -0.8 and 3.8 or ft their curve (dep M1 in (b))
16		-5	3	M1 for correct first step, eg $9x - 15 = 12x$ M1 for isolating terms in x , eg $-15 = 3x$ A1 cao

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Question		Working	Answer	Mark	Notes
17	(a)		$\frac{3}{4}$	2	M1 for correct method to find the gradient eg sight of right-angled triangle with their height divided by their base A1 oe
	(b)		$y = \frac{3}{4}x - 3$	2	M1 for using gradient from (a) in $y = mx + c$ or $y = \frac{3}{4}x + c$ oe, where $c \neq -3$ or $y = mx - 3$ oe where $m \neq 0, \frac{3}{4}$ or $\frac{3}{4}x - 3$ oe A1 ft (a)

Question 15



