OCR
Oxford Cambridge and RSA

Higher

GCSE

Mathematics - Paper 5

J560/05: Paper 5 (Higher tier)

General Certificate of Secondary Education

Mark Scheme for November 2024

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

MARKING INSTRUCTIONS

PREPARATION FOR MARKING
RM ASSESSOR

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *RM Assessor Online Training*; *OCR Essential Guide to Marking*.

2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are available in RM Assessor.

3. Log-in to RM Assessor then mark and annotate the **required number** of practice responses ("scripts") and the **required number** of standardisation responses.

MARKING

1. Mark strictly to the mark scheme.

2. Marks awarded must relate directly to the marking criteria.

3. The schedule of dates is very important. It is essential that you meet the RM Assessor 50% and 100% deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.

4. If you are in any doubt about applying the mark scheme, consult your Team Leader via the RM Assessor messaging system.

5. Where a candidate has crossed out a response and provided a clear alternative then the crossed out response is not marked. Where no alternative response has been provided, examiners should give candidates the benefit of the doubt and mark the crossed out response where legible.

6. When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

7. On each blank page the annotation **BP** must be inserted to confirm that the page has been checked. For additional objects (if present), a tick must be inserted on each page to confirm that it has been checked.

8. There is a NR (No Response) option. Award NR (No Response)
   - if there is nothing written at all in the answer space
   - OR if there is a comment which does not in any way relate to the question (e.g. 'can't do', 'don't know')
   - OR if there is a mark (e.g. a dash, a question mark) which is not an attempt at the question.

   The hash key (#) on your keyboard will enter NR.

   Note: Award 0 marks for an attempt that earns no credit (including copying out the question).

9. The RM Assessor **comments box** is used by the Principal Examiner or your Team Leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**

   If you have any questions or comments for your Team Leader, use the RM Assessor messaging system.

10. Assistant Examiners should send a brief report on the performance of candidates to their Team Leader (Supervisor) by the end of the marking period. Please follow the direction of your Team Leader about which questions you should report on and how to submit your report. Your report should contain notes on particular strengths displayed as well as common errors or weaknesses.

11. Annotations available in RM Assessor. These **must** be used whenever appropriate during your marking.

Annotation	Meaning
	Correct
	Incorrect
BOD	Benefit of doubt
FT	Follow through
ISW	Ignore subsequent working (after correct answer obtained), provided method has been completed
M0	Method mark awarded 0
M1	Method mark awarded 1

M2	Method mark awarded 2
A1	Accuracy mark awarded 1
B1	Independent mark awarded 1
B2	Independent mark awarded 2
MR	Misread
SC	Special case
^	Omission sign
BP	Blank page
SEEN	Seen

For a response awarded zero (or full) marks a single appropriate annotation (cross, tick, M0 or ^) is sufficient, but not required.
For responses that are not awarded either 0 or full marks, you must make it clear how you have arrived at the mark you have awarded and all responses must have enough annotation for a reviewer to decide if the mark awarded is correct without having to mark it independently.

It is vital that you annotate standardisation scripts fully to show how the marks have been awarded.

Subject-Specific Marking Instructions

12. **M** marks are for using a correct method and are not lost for purely numerical errors.
A marks are for an accurate answer and depend on preceding **M** (method) marks. Therefore **M0 A1** cannot be awarded.
B marks are independent of **M** (method) marks and are for a correct final answer, a partially correct answer, or a correct intermediate stage.
SC marks are for special cases that are worthy of some credit.

13. The following abbreviations are commonly found in GCSE Mathematics mark schemes.

- **figs 237**, for example, means any answer with only these digits. You should ignore leading or trailing zeros and any decimal point e.g. 237000, 2.37, 2.370, 0.00237 would be acceptable but 23070 or 2374 would not.
- **isw** means **ignore subsequent working** after correct answer obtained and applies as a default.
- **nfww** means **not from wrong working**.
- **oe** means **or equivalent**.
- **rot** means **rounded or truncated**.
- **soi** means **seen or implied**.
- **dep** means that the marks are **dependent** on the marks indicated. You must check that the candidate has met all the criteria specified for the mark to be awarded.
- **with correct working** means that full marks **must not** be awarded without some working. The required minimum amount of working will be defined in the guidance column and **SC** marks given for unsupported answers.

14. Anything in the mark scheme which is in square brackets […] is not required for the mark to be earned, but if present it must be correct.

15. Unless the command word requires that working is shown and the working required is stated in the mark scheme, then if the correct answer is clearly given and is not from wrong working **full marks** should be awarded.

Do not award the marks if the answer was obtained from an incorrect method, i.e. incorrect working is seen and the correct answer clearly follows from it.

16. Where follow through (**FT**) is indicated in the mark scheme, marks can be awarded where the candidate's work follows correctly from a previous answer whether or not it was correct. For questions with FT available you must ensure that you refer back to the relevant previous answer. You may find it easier to mark these questions candidate by candidate rather than question by question.

Figures or expressions that are being followed through are sometimes encompassed by single quotation marks after the word *their* for clarity, e.g. FT 180 × (*their* '37' + 16), or FT 300 – √(*their* '52 + 72'). Answers to part questions which are being followed through are indicated by e.g. FT 3 × *their* (a).

17. In questions **with no final answer line**, make no deductions for wrong work after an acceptable answer (i.e. **isw**) unless the mark scheme says otherwise, indicated by the instruction 'mark final answer'.

18. In questions **with a final answer line and incorrect answer given**:

(i) If the correct answer is seen in the body of working and the answer given on the answer line is a clear transcription error allow full marks unless the mark scheme says 'mark final answer'. Place the annotation ✓ next to the correct answer.

(ii) If the correct answer is seen in the body of working but the answer line is blank, allow full marks. Place the annotation ✓ next to the correct answer.

(iii) If the correct answer is seen in the body of working but a completely different answer is seen on the answer line, then accuracy marks for the answer are lost. Method marks could still be awarded if there is no other method leading to the incorrect answer. Use the **M0**, **M1**, **M2** annotations as appropriate and place the annotation **×** next to the wrong answer.

19. In questions **with a final answer line**:

(i) If one answer is provided on the answer line, mark the method that leads to that answer. A correct step, value or statement that is not part of the method that leads to the given answer should be awarded **M0** and/or **B0**.

(ii) If more than one answer is provided on the answer line and there is a single method provided, award method marks only.

(iii) If more than one answer is provided on the answer line and there is more than one method provided, award marks for the poorer response unless the candidate has clearly indicated which method is to be marked.

20. In questions with **no final answer line**:

(i) If a single response is provided, mark as usual.

(ii) If more than one response is provided, award marks for the poorer response unless the candidate has clearly indicated which response is to be marked.

21. When the data of a question is consistently misread in such a way as not to alter the nature or difficulty of the question, please follow the candidate's work and allow follow through for **A** and **B** marks. Deduct 1 mark from any **A** or **B** marks earned and record this by using the **MR** annotation. **M** marks are not deducted for misreads. If a candidate corrects the misread in a later part, do not continue to follow through, but award **A** and **B** marks for the correct answer only.

22. Unless the question asks for an answer to a specific degree of accuracy, always mark at the greatest number of significant figures even if this is rounded or truncated on the answer line. For example, an answer in the mark scheme is 15.75, which is seen in the working. The candidate then rounds or truncates this to 15.8, 15 or 16 on the answer line. Allow full marks for the 15.75.

23. Ranges of answers given in the mark scheme are always inclusive.

24. For methods not provided for in the mark scheme (including visual representations such as bar models, ratio tables, etc) give as far as possible equivalent marks for equivalent work. If in doubt, consult your Team Leader.

25. If in any case the mark scheme operates with considerable unfairness consult your Team Leader.

Question			Answer	Mark	Part marks and guidance	
1			$\frac{17}{18}$ oe	4	**B2** for [–] $\frac{8}{9}$ oe or **M1** for [–] $\frac{2}{3}\times\frac{4}{3}$ oe or [–] $\frac{8}{12}\div\frac{9}{12}$ oe **M1** for $\frac{33}{18}-\frac{16}{18}$ oe FT *their* $\frac{8}{9}$ or [1] $\frac{15}{18}-\frac{16}{18}$ oe FT *their* $\frac{8}{9}$ If 0 or 1 scored, award instead **SC2** for answer $\frac{14}{9}$ oe If 0 scored, **SC1** for $\frac{7}{6}$ oe in working	Allow pairs of equivalent fractions for the product or division for M1 Allow pairs of equivalent fractions both over a common denominator for M1 From correct processing but wrong order
2	(a)		60	2	**M1** for 360 ÷ 6 or for 180 – $\frac{180\times(6-2)}{6}$ oe	
2	(b)		120	1	Correct or FT 180 – *their* 60	FT dep on (a) < 180
3	(a)		30	3	**M2** for $\frac{90}{60+150+90}$ [× 100] oe or **M1** for 60 + 150 + 90 oe seen	M2 implied by 0.3 oe M1 for 300 seen
3	(b)		200	3	**M2** for 150 ÷ $\frac{100-25}{100}$ oe or **M1** for $\frac{100-25}{100}$ oe isw	**M1** implied by 75%, $\frac{75}{100}$ or 0.75
4			30 + 22*n* oe final answer	2	**B1** for final answer 30 + *kn* or *k* + 22*n* (*k* > 0) or for correct answer seen then spoiled If 0 scored, **SC1** for $30 + 22^n$	Ignore units Condone poor notation, use of other letters for 2 marks or B1 e.g. 30 + 22 × *n*, 30 + 22*y*, *n* = 30 + 22*n*

Question			Answer	Mark	Part marks and guidance	
5			1.6 with correct working	5	**M2** for $\frac{79.6-2\times5}{3.4}$ oe or **M1** for 79.6 – 2 × 5 oe implied by 69.6 AND **B1** for 20 [. …] or [total length of books =] 68 [cm] AND **M1** for 79.6 – (*their* 20 × 3.4 + 2 × 5) If **0** or **1** scored, instead award **SC2** for answer 1.6 with no working or insufficient working	"Correct working" requires evidence of at least **M2** For M2 allow for use of trials to try to make 69.6 e.g. 3.4 × 20 [= 68] with 79.6 – 2 × 5 oe seen Accept attempt with repeated addition/subtraction of 3.4 for M2 isw using estimation only after correct values shown for M2 20[. …] seen or used as max number of books For B1 ignore remainders with 20 68 must be *their* total length of books and not just a value in working *their* 20 must be written and working shown for M1 . M1 Dep on answer < 3.4 Could be implied by e.g. repeated subtraction Alternative method: **M2B1M1** or **M2B0M1** depending on "20" for $(\frac{79.6-2\times5}{3.4}$ – *their* 20) × 3.4 Alt scheme if <u>consistent</u> omission of two paperweights or one paperweight with no adjustment later **M1** for $\frac{79.6[-5]}{3.4}$ oe **B2** for answer 11.6 or **B1** for 68 [cm] OR **M1** for $\frac{79.6[-5]}{3.4}$ oe **B1** for 23.[…] ignore remainders or for 78.2 or 21.[…] ignore remainders or for 71.4 **A1** for answer 1.4 or 3.2

Question			Answer	Mark	Part marks and guidance	
6			The two events are not mutually exclusive oe and $\frac{6}{10}$ oe	2	**B1** for correct reason or $\frac{6}{10}$ oe	e.g. He has counted the same card/number/20 twice It should be $\frac{1}{10}+\frac{5}{10}$ or $\frac{2}{10}+\frac{4}{10}$ No contradictory statements for the reason See appendix 1
7	(a)		30	3	**M2** for $\frac{4\times60}{40}\times5$ oe or **M1** for interpreting the proportional relationship given e.g. 1 figure takes 8 mins or for $\frac{4\times60}{40}$ [×5] oe or $\frac{5\times60}{40}$ [×4] oe	10 figures take 80 mins, 7.5 figures take 1 hr etc
7	(b)		108	3	**M2** for $40\times\frac{15}{5}\times\frac{100-10}{100}$ oe **M1** for $\frac{90}{100}\times$ *their* time or [*their* time –] $\frac{10}{100}\times$ *their* time seen If 0 scored, **SC1** for answer 132	M2 e.g. 3 × 0.9 × 40 or 7.2 × 15 *their* time = 8, 40 or 120 M1 implied by 12, 36, 4, 7.2, 0.8 seen or as part of a subtraction

Question			Answer	Mark	Part marks and guidance	
8			Reason includes *a*4 should be written as 4*a* oe or the 4 is written after the *a* oe and 6 × *b* should be written as 6*b* oe or the 6 and *b* should not be separated oe	2	**B1** for correct explanation for one term *a*4 should be written as 4*a* oe or the 4 is written after the *a* oe or 6 × *b* should be written as 6*b* oe or the 6 and b should not be separated oe or correct expression written 4*a* + 6*b*	Must refer to error in each term for 2 marks Incorrect statements apply penalty 1 mark if 2 marks earned See appendix 2
9			-0.3 oe	3	**M1** for correct first step **M1** FT *their* first step to to *ax* = *b*	Embedded answer scores **M2** max If not shown, **M1** implied by 10*x* = *b* or *ax* =–3 10*x* = -3 or -10*x* = 3
10	(a)		4	1		
10	(b)		No and 4 × 3 + 9 = 21 oe Or No and (23 – 9) ÷ 4 = 3.5 oe Or No the equation would need to be *y* = 4*x* + 11	2	**M1** for 4 × 3 + 9 or for 23 – 9 ÷ 4	For 2 marks no errors seen accept No and (3, 21) or (3.5, 23) For M1 allow no/incorrect evaluation

Question			Answer	Mark	Part marks and guidance	
11	(a)		1300 with correct working	5	**M3** for (1 – (0.35 + 0.25)) × $\frac{3}{4}$ × 2000 oe **M1** for 0.35 × 2000 oe OR **B2** for rel freq of yellow disc = 0.3 or for 1200 Green and red discs in bag or **M1** for 0.35+ 0.25 + P(y) + P(b) = 1 or better or for (0.35 + 0.25) × 2000 oe **M2dep** for (*their* 0.3 + 0.35) × 2000 oe or **M1dep** for (*their* 0.3 + 0.35) oe If 0 or M1 only scored, instead award **SC2** for answer 1300 If 0 scored, award **SC1** for 700	'Correct working' requires evidence of M3 Condone 1300 rounded to 1000 as answer for 5 marks For M3 accept 600 yellow M1 implied by 700 For B2 accept 700 for green and 500 for red M1 for e.g.1 – (0.35 + 0.25) oe M2dep and M1 dep on at least M1 earned M1dep implied by 0.65
11	(b)		She may not have done the experiment a lot of times oe	1		
12			Answer 800 with 2, 5 and 4000 seen	4	**B1** for at least two of the values 5, 2 and 4000 **M2** for $\frac{their\ 4000}{0.5 \times their\ 5 \times their\ 2}$ oe or **M1** for $\frac{1}{2} \times their\ 5 \times their\ 2$	For B1 condone trailing zeros For M2 and M1 *their* values can be 3951, 5.03, 1.96 or other rounded relatable values
13			$0.\dot{3}\dot{6}$	2	**M1** for 4 ÷ 11 soi	Accept e.g. $0.\overline{36}$ M1 implied by 0.36…
14	(a)		2500	1		

Question			Answer	Mark	Part marks and guidance	
14	(b)		20	1		
14	(c)		Correct increasing curve with 2500 indicated as *y* – intercept	3	**B1** for 3 of 4 correct plots at 1, 2, 3, 4 **B1** for plot or intercept at 2500 **B1** for increasing curve from *x* = 1 to *x* = 4 through *their* 4 points	Accuracy use overlay as a guide 4320 and 5187 should be in the correct small square including the boundaries Do not accept ruled linear graph Ignore if joined to (0, 0) Maximum 2 marks if curve incorrect
14	(d)		That the annual percentage increase stays the same oe	1		Accept % increase/interest/%change remains constant each year If % value is given then accept 20% or *their*(b) See appendix 3
15	(a)		20π final answer	4	**M2** for $\sqrt{8^2+6^2}$ oe or **M1** for 6^2 and 8^2 oe **M1dep** for $2 \times \pi \times$ *their r*	Accept e.g. C = 20π M2 implied by 10 M1 dep on at least M1
15	(b)		8π final answer	4	**B2** for *x* = 45 or $\frac{45}{360}$ oe or $\frac{2[\pi]}{2[\pi]8}$ oe or **M1** for $\frac{x}{360}\times 2\times\pi\times 8 = 2\pi$ oe **M1** for $\frac{their\,45}{360}\times\pi\times 8^2$ oe or $\frac{x}{360}\times\pi\times 8^2$	0 < *their* 45 < 90 M1 for e.g. $\frac{2[\pi]}{2[\pi]8} \times \pi \times 8^2$

Question			Answer	Mark	Part marks and guidance	
16	(a)		$y \leq x + 4$ oe and $y < 9$	3	**B2** for $y \leq x + 4$ oe or **B1** for $y \ldots x + 4$ oe but with = or an incorrect inequality symbol **B1** for $y < 9$	Accept inequalities in either order
16	(b)		12 nfww	4	**B2** for (2, 6) and (6, 6) or (5, 9) and (9, 9) identified or for base 4 and perpendicular height 3 both identified or **B1** for (2, 6) or (6, 6) or (5, 9) or (9, 9) or for base = 4 or height = 3 AND **M1** for *their* base × *their* perpendicular height	May be seen on diagram Must identify base and perpendicular height of parallelogram in working or on diagram Do not allow if slant height used
17	(a)		60, 74, 80	1		
17	(b)		Correct curve	3	**B1** for correct horizontal plots **B1FT** for correct vertical plots **B1FT** *their* (a) for smooth increasing curve through 5 points	Condone polygon, ignore curve to left of $m = 5$ Accuracy ½ small sq radially on curve and plots Condone increasing linear graph Ignore blocks
17	(c)		15	1		

Question			Answer	Mark	Part marks and guidance	
17	(d)		Strict FT *their* curve $\frac{80 - \textit{their}\text{ reading at }18\text{ kg}}{80}$ oe	2	**B1** for 80 – *their* reading at 18 kg or $\frac{\textit{their}\text{ reading at }18\text{ kg}}{80}$	For 2 marks, accept fract/dec/% equivalents isw cancelling/conversion Accept FT polygon for curve For 2 marks or B1 accept *their* reading ± 1
18			$\frac{1}{3}$ and 5 with correct working	6	**B3** for $3x^2 - 16x + 5$ [= 0] oe or **M2** for $x^2 - 5 = 4x^2 - 16x$ or better or **M1** for $x^2 - 5 = 4x(x - 4)$ **M2** for $(3x - 1)(x - 5)$ [= 0] or **M1** for $3x(x - 5) - 1\ (x - 5)$ or for $x\ (3x - 1) - 5(3x - 1)$ or for $(3x + a)(x + b)$ where $ab = 5$ or $3b + a = -16$ If **0** or **1** scored instead award **SC2** for correct answers	Correct working requires at least B3 and M1 For B3 accept negative version, accept $3x^2 - 16x = -5$ M2 and M1 FT *their* 3-term quadratic M2 alt method correct substitution into formula or correct complete square M1 condone 1 error in substitution into formula For complete square, correct FT $(x + a)^2$
19	(a)		Angle in a semi-circle [= 90]	1		Accept: Angle subtended by diameter [= 90] Angle at centre is twice angle at circumference

Question			Answer	Mark	Part marks and guidance	
19	(b)		EBD or EBO or FBD or FBO and angle between radius and tangent [= 90]	2	**B1** for EBD or EBO or FBD or FBO or for correct reason	Accept DBE etc but not B Accept diameter for radius
19	(c)		35	1		
19	(d)		25	1		
20			$4\sqrt{5}$ final answer	2	**B1** for $\sqrt{80}$ or $2\sqrt{20}$ or $\frac{4\sqrt{10}}{\sqrt{2}}$	Do not award B1 for e.g. $\sqrt{160} = \sqrt{2}\ \sqrt{80}$ alone
21	(a)		$\frac{1}{2}$ oe	1		
21	(b)		$2^x \times 2^{2y} = 2^4$	M2	**B1** for 2^{2y} or 2^4	For M2 accept equivalent work with all terms in other bases e.g. 4 Accept $(2^2)^y$ for 2^{2y} Allow B1 for writing one other term correctly in base 4 or base 16 e.g. [2^x =] $4^{\frac{x}{2}}$ or [4^y =] $16^{\frac{y}{2}}$
			$x + 2y = 4$	M1	**M1 dep on M2**	For M1 accept correct equivalent equation
			one further step leading to $y = 2 - \frac{x}{2}$	A1		

Question			Answer	Mark	Part marks and guidance	
22			$2n^2 + 1 + 2(n + 1)^2 + 1$	M2	**M1** for $2(n + 1)^2 + 1$ or $2(n – 1)^2 + 1$	Accept $2(n + a)^2 + 1 + 2(n + b)^2 + 1$ oe where there is a difference of 1 between a and b
			$2n^2 + 1 + 2n^2 + 4n + 2 + 1$ or better	M2	Dep on M2 FT *their* consecutive algebraic terms For all brackets correctly expanded **M1** for a squared bracket correctly expanded e.g. [2] $(n^2 + n + n + 1)$ or better	M1 accept any bracket squared expansion seen e.g. $(2n + 3)^2 = 4n^2 + 6n + 6n + 9$ or better or [2]$(n^2 – n – n + 1)$ if $2(n – 1)^2$ used
			$4n^2 + 4n + 4$	A1	**FT** *their* consecutive algebraic terms after M2M2 earned	Accept e.g. $4n^2 – 4n + 4$ if n and $n – 1$ used
			Correct conclusion e.g. $4(n^2 + n + 1)$ and multiple of 4 Each of the terms is divisible by 4 so multiple of 4	A1	With no errors or omissions seen	

Appendix 1

Question 6

	Response	Mark
A	Some multiples of 5 may intersect with the five even numbers so it may not be $\frac{5}{10}$ BOD	**1**
B	One of the multiples of 5 could be even BOD	**1**
C	He has counted the same card more than once	**1**
D	20 is repeated/in both	**1**
E	He did not minus the repeated card	**1**
F	He forgot to take away the multiples of 5 from the even numbers	**1**
G	They have counted 20 twice and they have not added the fractions correctly (we can ignore the second part of the statement as it does not contradict they have counted 20 twice)	**1**
H	Some even numbers are also numbers that are multiples of 5	**1**
I	Even numbers are also numbers that are multiples of 5 (not true – only some even numbers are)	**0**
J	The two multiples of 5 are also even numbers (incorrect statement)	**0**

Appendix 2

Question 8

Answers that imply the brackets have been multiplied incorrectly treat as incorrect statements
Do not accept for 2 marks 4a + 6b alone without some explanation but allow for B1

	Response	Mark
A	He didn't put the 6 and the *b* together to show it is multiplied. He put the 4 after the *a* when it should be before (oe)	**2**
B	Because they separated the *b* from the 6 and put the a in front of the 4	**2**
C	In algebra the 4 should come before the a so it is 4*a*, the multiplication sign is not needed so it should be 6*b* 4*a* + 6*b* should not be simplified so the answer is 2*a* + 3*b* (penalty 1 after correct explanation for 2 marks then incorrect statement)	**1**
D	It is correct 4*a* + 6*b*	**B1**
E	It is not written correctly, it should be 4*a* + 6*b* (B1 for 4*a* + 6*b*)	**B1**
F	The answer is 4*a* + 6*b*	**B1**
G	Because numbers have to be placed in front of letters BOD for term in *a* term in *b* not explained	**B1**
H	Shows 4*a* + 6*b* in working and then 'because they can further simplify the answer by 2(2*a* + 3*b*)'	**B1**
I	It should be 4*a* + 6*b*, the student has not timesed the 6 and the b together	**B1**
J	It is 6*b* not 6 x *b* – it has not been fully simplified	**B1**
K	a4 is incorrect as 4 is the coefficient – it should be 4*a*	**B1**
L	The answer should be 4*a* + 6*b* , he did the 2*b* calculation wrong he should have multiplied them together by 3 to get the answer	**B1**
M	The number must be before the letter 4*a* + 6*b*	**B1**
N	4*a* + 6*b* written above answer lines and answer line blank	**B1**
O	She has put 4 after the *a* and has only multiplied the number 2 by 3 without the *b* (one correct statement about *a*)	**B1**
P	He has put 4*a* as a power and 6 x *b* should be 6*b*, should be 4*a* + 6*b* (B1 for 4*a* + 6*b*)	**B1**
Q	They should not be separating the 6 and the *b* it should be 6*b*	**B1**
R	The contents of the bracket were not expanded correctly it should be 2 x 3*b* = 6*b* (not explained error how term is written)	**0**
S	He has written *a*4 and 6 × *b* (further explanation about the error needed)	**0**

Appendix 3

Question 14d

	Response	Mark
A	The formula works beyond 4 years	**1**
B	The formula stays the same and nothing changes	**1**
C	It remains at 2500×1.2^n over the years	**1**
D	The painting increases by the same [%] rate/proportion each year	**1**
E	The painting will continue to increase in value	**0**
F	The value does not decrease at any point	**0**
G	The value of the painting remains the same each year	**0**
H	The price is going to raise each year	**0**
I	The increase in the expected value remains constant	**0**
J	The painting consistently rises by the same amount each year	**0**

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