

Cambridge International AS & A Level

THINKING SKILLS**9694/41**

Paper 4 Applied Reasoning

May/June 2024**MARK SCHEME**Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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This document consists of **13** printed pages.

PUBLISHED**Generic Marking Principles**

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptions for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.













GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).







GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

ANNOTATIONS

Annotation	Meaning and use
	Correct response. Use when a mark has been achieved in Q1, 2 and 3.
	Incorrect (part of a) response
	Not good enough. Use when a response is partly correct but is insufficiently creditworthy for a mark to be awarded.
	Benefit of doubt
	Strand of reasoning
	Main Conclusion
	Intermediate Conclusion
	Additional argument element in Q1 / Argument Element in Q4
	Creditworthy material in the Use of Documents skill
	Use stamps 1–5 alongside U to indicate which document has been referenced
	Evaluation of documents
	Comparison of or inference from documents

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Annotation	Meaning and use
	Creditworthy material in the Quality of Argument skill
	Treatment of counter-position
	Level achieved. Add annotation at the end of Question 4 in the order of S, U, Q from left to right.
	Strong demonstration of a skill Higher mark within a level awarded
	Minor demonstration of a skill Flaw or weakness Lower mark within a level awarded
	Examiner has seen that the page contains no creditworthy material Use to annotate blank pages
Highlight	Use to draw attention to part of an answer

There must be at least one annotation on each page of the answer booklet.

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Question	Answer	Marks
1(a)	Schools should stop issuing homework to students.	1
1(b)	<p><i>1 mark for each correctly identified IC</i></p> <ul style="list-style-type: none"> It is misleading to argue that (, because working in the evening is something they will do as adults,) homework helps students to prepare for work. <i>Allow omission of everything after 'that'</i> The work produced by students at home has no educational value. (Overall) homework has a negative effect on education. 	2

Question	Answer	Marks
1(c)	<p><i>Award 1 mark for each of the following [max 3]:</i></p> <p>R1 Many homework tasks are dull and too difficult for some students to engage with Ex (like) writing essays. R2 (Furthermore,) with incomplete or late homework comes the threat of punishment. IC1 (Consequently,) students find the whole thing very stressful. IC2 Many students learn to associate education with stressful situations C (so) homework can put students off learning altogether. A Difficult to engage with tasks that are stressful / the threat of punishment is stressful.</p>	3
	<p><i>Award 1 mark for identifying two relationships between elements, e.g.</i></p> <ul style="list-style-type: none"> • R1 supports IC1 • Ex illustrates R1 • R2 supports IC1 • IC1 supports IC2 • IC2 supports C • A is needed in order for R2 to support IC1 <p><i>Reference to start and end of elements must be unambiguous.</i></p> <p><i>Sample 4-mark answer:</i></p> <p>The conclusion of the paragraph is ‘so homework can put people off learning for life’ [1]. This is directly supported by ‘Many students learn to associate education with stressful situations’, which is an intermediate conclusion [1] because it is supported by ‘Consequently, students find whole thing very stressful’ [1], which is an intermediate conclusion [1]. ‘Writing essays’ is an example [1].</p>	1
1(d)	(Of course,) some young people are preparing for tests and so would benefit from studying at home.	1

Question	Answer	Marks
2(a)	<p>2 marks for a developed version of any of the following points 1 mark for a weak or incomplete version of any of the following points [max 6]</p> <p><i>Paragraph 3:</i></p> <ul style="list-style-type: none"> • <i>Straw man</i> – reference to the argument that homework helps students prepare for work could be seen as a deliberate attempt to focus on a weak counter-position • <i>Conflation</i> – of ‘job-related activities’ and ‘working’ • (Allow: <i>rash generalisation</i> – from the author’s father to adults in general) <p><i>Paragraph 4:</i></p> <ul style="list-style-type: none"> • <i>Weak support</i> – the reason that some tasks are set with little thought and some may be unmarked is not sufficient to support the IC that homework has no educational value • <i>Inconsistency</i> – between teachers giving little thought to tasks and leaving some unmarked with ‘hours’ spent setting and assessing homework • <i>Reliance on questionable assumption</i> – in order to conclude that the overall effect would be negative, one must assume that any hypothetical improvements in lesson learning would outweigh reduced learning at home <p><i>Paragraph 5:</i></p> <ul style="list-style-type: none"> • <i>False dichotomy</i> – the passage implies that completing homework means there would be no possibility of engaging in other activities, such as socialising [relaxation/hobbies/sport/exercise]. It may be possible to do both • <i>Reliance on questionable assumption</i> that students would use their free time for physical activity if they did not have to devote it to homework • <i>Slippery slope</i> – from doing homework rather than exercise to a future increase in heart disease • <i>Inadequate support</i> – continuing the present homework/free time balance for students may fail to improve cardiac health, but the idea that it would be made worse relies on the <i>questionable assumption</i> that the balance has recently tipped towards less free time 	6
2(b)	<p>The paragraph is persuasive in arguing that optional homework could be a better solution than compulsory homework [1]. However, the main conclusion is that schools should stop issuing homework altogether, not that they should merely remove the compulsory element [1]. Therefore, the support given to the main conclusion is weak [1].</p> <p>The reasoning relies on the very questionable assumption that students will make responsible decisions about learning [1]. Also, it is not necessarily true that adopting an optional approach would mean that students ‘will be more motivated to learn and will not be put off learning for life’, since some students may consequently entrench a preference to avoid learning as much as possible [1].</p>	3

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Question	Answer	Marks
3(a)	<p><i>1 mark for a version of any of the following points [max 4]</i></p> <ul style="list-style-type: none"> No figures in the paragraph directly support an improved likelihood of entering higher education. The mentioned studies finding that homework was ‘effective’ does not necessarily support the claim that it ‘greatly improves’ student achievement. The figure of 64% does not take account of possible differences between the individual studies (in terms of quality or what precisely was measured), so this figure could be greatly misleading (e.g. the most rigorous studies could be the ones that showed that homework was not effective). 36% of studies could have shown that homework was <i>not</i> effective, which makes the claim look perhaps overdrawn. Mathematics is plausibly atypical as a subject in which extra practice at home brings more benefits than is the case for other subjects. There is no evidence that the extra hour’s homework is the cause of the increased mathematics test scores – it could be that those who do no homework do so because they struggle with mathematics or academic work in general. If the claim is about the policy of <i>setting</i> homework, then the studies which measured the effect of work actually completed may not actually support this. 	4
3(b)	<p>The claim does not demonstrate that completing homework actually develops the skills mentioned / the skills could have been developed from activities other than doing homework [1]. It is simply that students who employ these skills (however acquired) achieve highly [1].</p> <p>The research cited contains no information about the proportion of students completing homework who develop these skills [1].</p>	2

Question	Answer	Marks
4	<p>‘Schools should not set compulsory homework.’</p> <p>Example high-scoring answers</p> <p><i>Argument to support (768 words)</i></p> <p>Many children claim to enjoy learning but not homework. This should not merely be dismissed as the predictable complaints of young people. Compulsory homework can damage the relationship young people have with learning. This point is summarised by Doc 1 and the example of Liam in Doc 3 is consistent with this view. The introductory paragraph in Doc 2 appears to run contrary to this view but it is likely that many children do not make it as far as the university stage and continue to have negative learning associations. If we can agree that it is a good thing to have enthusiasm for learning, then the possibility that homework damages this should be a concern.</p> <p>Internet discussion forums do not usually provide strong support for any argument, but the Finland example quoted by OP is at least consistent with an absence of homework not damaging the prosperity of a country. The two heralded benefits of homework are that it improves grades and that it prepares students for adult life but there is very little evidence for either of these claims.</p> <p>We are not presented with much data in the documents, but the cherry-picked and <i>cum hoc</i> examples of efficacy in paragraph 4 of Doc 2, do not convincingly show a benefit of homework. Likewise, the claim in paragraph 6 of Doc 2 that homework involves parents and, since parental involvement is associated with increased performance, homework must therefore increase performance is doubly flawed. Firstly, the logic works only if there is a causal relationship between the type of parental involvement resulting from homework and improved performance – it is possible, perhaps likely, that the measured improved performance is a result of a high level of parental involvement from an early age unrelated to homework. Furthermore, while John’s Hopkins University might well be prestigious, its credibility is not attached to the first claim in paragraph 6. Homework might allow parents to become more involved with their children’s education, but there is no evidence that this is what actually happens. Furthermore, the evidence from the review in paragraph 4 could be used to support the claim by MN in Doc 5 that ‘Many studies have shown there is little or no academic benefit to completing homework.’ So, the evidence that compulsory homework improves grades is, at best, weak.</p> <p>The claim that homework facilitates the development of key skills that are useful for work is also weak. While the example of the author’s father in Doc 1 is not convincing evidence of a general rule, it is certainly true that the skills that might be developed while completing homework assignments probably bear very little relationship to the skills and working patterns of the average adult job. The assumption that children’s working patterns ought to resemble adults’ seems questionable anyway. Moreover, in an ever-changing world, it is very likely that the skills needed in the job market of the future will not resemble those theoretically developed by homework assignments today.</p>	27

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Question	Answer	Marks
4	<p>So, claims that homework is effective preparation for being a successful adult are weak. Other appeals in support of homework are irrelevant – Doc 2 appeals to tradition and the claim that could be inferred from Doc 4, that ‘most schools do it’, is something of an appeal to popularity.</p> <p>The claim in Doc 5 that homework is socially divisive might seem minor but is worth exploring. The homework-completing facilities and opportunities vary greatly from home to home. While social divisions in society might be inevitable, they ought not to be actively perpetuated by the school system. As a general principle, all students should, within their school-based education, have access to the same learning opportunities. Homework prevents application of this principle.</p> <p>Schoolwork, i.e. work set by teachers, is not the only time children learn. For example, social interactions are important, as Doc 1 and EF in Doc 5 mention, and we need to learn from them. Both Docs 1 and 3 cite sport as something many children enjoy in their spare time. Most of today’s sports stars probably had help from school, but that initial interest and much of the early-years’ practice probably occurred outside school at evenings and weekends. If you enjoy something, you will practise it more; if you practise more, you will get better. Many children enjoy exploring science, either in person or via the internet; others enjoy music, or art. So, by making students spend a lot of their spare time doing things they don’t enjoy, we could be depriving ourselves of some of the most successful people in a variety of disciplines.</p> <p>Schools should not set compulsory homework.</p> <p><i>Argument to challenge (812 words)</i></p> <p>We constantly hear complaints, mostly from teenagers, that homework does no good and should be abolished but this special pleading ignores evidence, experience and common sense.</p> <p>Compulsory homework does improve grades. Most of the data regarding homework and performance come from Doc 2. While it is possible to criticise the individual examples in paragraph 4 as cherry-picked, they are only examples to illustrate a point. The main evidence is provided by the educational research literature, which seems to have collated data from a large number of different studies, which states that 64% of studies found homework to be beneficial. Evidence from a review of a large number of, presumably peer-reviewed and credible studies, is about as strong as this type of evidence gets. The claim by MS in Doc 5 that ‘Many studies have shown there is little or no academic benefit to completing homework.’ is supported by no evidence and could therefore be, like many claims on an internet discussion forum, made up. The example from Finland in Doc 5 is also flawed – it is possible that Finland is the only such example and there may well be many things, other than a lack of homework, about Finland that are responsible for its prosperity, and we are given no data about the effect of the Finnish homework policy on grades. Document 1 appears strongly anti-homework and yet, the effect of homework on student performance is something Doc 1 suspiciously avoids.</p>	

Question	Answer	Marks
4	<p>Homework can give students other key skills that are a feature of adult life. This conclusion is cited in Doc 3 and Doc 2, although its support in the latter does rely on an assumption. School days vary around the world but they rarely extend as long as the typical working day of an adult – work in the evenings or weekends gives students a taste of what is to come and allows them to develop strategies to deal with it. The counter-example in Doc 1 is clearly a rash generalization – many jobs, e.g., teacher, do have working patterns similar to the school work–homework model. The example in Doc 1 is also questionable. Although the author’s father might never have assembled a computer at home, it is entirely possible that he used the self-discipline and time management he developed doing homework as a child to complete other tasks in the evening, such as filing tax returns or carrying out home improvements.</p> <p>The fact that the vast majority of schools do issue compulsory homework is more than just an appeal to popularity. Decisions about the issuing of homework are taken both within individual schools and at the level of national and local education policy. The people who take these decisions are likely to have high levels of expertise, particularly within schools, and have access to reliable evidence, such as that cited by the school spokesman in Doc 3 and the acting heads in Doc 4; they, particularly those who set education policy, also have some ability to know and understand the impact of such measures. The people who call for the abolition of homework seem mainly to be disaffected teenagers, like Liam in Doc 3, who lacks neutrality and expertise, and whose petition seems to contain inaccurate arithmetic, or random Internet commentators, like EF, MN and AB, about whose credibility we know nothing. As far as vested interest goes, those making education policy presumably have a vested interest to improve education! It seems safe to conclude, therefore, that the people telling us compulsory homework is good have higher credibility than the people telling us it isn’t.</p> <p>Other arguments against homework are full of weaknesses. Doc 1 states that many homework tasks are ineffective, and Doc 2 contains an implied corroboration of this in paragraph 3. However, Doc 1’s statement entails that some tasks are effective, which would be consistent with homework being, to a degree, beneficial. It is also something of an appeal to perfection – having some aspects of homework that don’t work is not sufficient reason to dismiss it entirely. The logical conclusion would be to try to improve any homework tasks set.</p> <p>Doc 1 claims that difficult, compulsory tasks and the threat of punishment push (a group of) students away from learning altogether. However, it could be that this group was never going to engage much with learning anyway. Doc 1’s suggestion that voluntary homework is the way forward suggests that some students (another group) would volunteer to do it. It seems unlikely that this second group would be negatively affected by compulsory homework. Importantly there is a 3rd group of students, exemplified by the sons in Doc 4: those who will not volunteer to complete homework but will do it if it is compulsory. This 3rd group is likely to benefit from compulsory homework and may well be the largest of the three groups.</p> <p>Schools should set compulsory homework.</p>	

Level	Structure*	Use of documents	Quality of argument
	<ul style="list-style-type: none"> Conclusion (MC) Intermediate conclusions (ICs) Strands of reasoning Examples or evidence Original analogy Hypothetical reasoning 	<ul style="list-style-type: none"> Reference to documents Evaluation of documents Comparison of documents (corroboration or contradiction) Inference from documents 	<ul style="list-style-type: none"> Comprehensive and persuasive argument Logical order of reasoning Relevant material Treatment of counter-positions Absence of flaws and weaknesses Non-reliance on rhetorical devices
3	Excellent use of structural elements: 7–9 <ul style="list-style-type: none"> Precise conclusion Multiple valid explicit ICs that support the MC Multiple clear strands of reasoning Some effective use of other argument elements to support reasoning 	Excellent use of documents: 7–9 <ul style="list-style-type: none"> Judicious reference to at least three documents Multiple valid evaluative points, clearly expressed and used to support reasoning Some comparison of or inference from documents 	Excellent quality of argument: 7–9 <ul style="list-style-type: none"> Sustained persuasive reasoning Highly effective order of reasoning Very little irrelevant material Key counter-position(s) considered with effective response Very few flaws or weaknesses No gratuitous rhetorical devices
2	Good use of structural elements: 4–6 <ul style="list-style-type: none"> Clear conclusion More than one valid IC Some strands of reasoning Some use of other argument elements 	Good use of documents: 4–6 <ul style="list-style-type: none"> Relevant reference to at least two documents At least two evaluative points used to support reasoning May be some comparison of or inference from documents 	Good quality of argument: 4–6 <ul style="list-style-type: none"> Reasonably persuasive reasoning Unconfused order of reasoning Not much irrelevant material Some counter-position(s) considered with some response Not many flaws or weaknesses May be some reliance on rhetorical devices
1	Some use of structural elements: 1–3 <i>There may be:</i> <ul style="list-style-type: none"> Conclusion Implied ICs Some strands of reasoning Some use of other argument elements 	Some use of documents: 1–3 <i>There may be:</i> <ul style="list-style-type: none"> Reference, perhaps implicit, to a document Some evaluation of a document Some comparison of or inference from documents 	Some quality of argument: 1–3 <i>There may be:</i> <ul style="list-style-type: none"> Some support for the conclusion Some order to the reasoning Some relevant material Some counter-position(s) considered with some response
0	No creditable response 0	No creditable response 0	No creditable response 0

*Cap mark for Structure at 3 if no conclusion given