



Common questions about Lifeskills Mathematics and Mathematics

General questions	1
National 3 Lifeskills Mathematics	4
National 4 Lifeskills Mathematics	4
National 5 Lifeskills Mathematics	4
Numeracy	6
National 4 Mathematics	7
Added Value Unit	8
National 5 Mathematics	8
Higher Mathematics	9
Advanced Higher Mathematics of Mechanics	11

General questions

How should practice assessments be used in Mathematics and Lifeskills Mathematics?

Where a centre is utilising practice assessments with candidates, it is recommended that consideration is given to the degree of similarity between the practice assessment and the chosen summative assessment.

Mathematics — Outcome 1 (operational skills)

Summative assessments are likely to be most reliable where operational skills are tested using questions set in different contexts or testing different aspects of the skill. For some skills, 'changing the numbers' may be the only option, eg factorising a sum of terms with a numerical common factor.

Where a context is being used, then the context could be changed, eg Pythagoras' Theorem could be in the context of a gate in a practice assessment and the roof of a house or context-free in a summative assessment.

Where a question tests a particular aspect of a skill, another aspect could be tested, eg if a sine rule question asked for the angle in a practice assessment then the summative assessment could ask for the side instead.

Mathematics Outcome 2 (reasoning skills)

Summative assessments are likely to be most reliable where questions testing reasoning skills are attached to different operational skills or use different contexts or strategies.

Lifeskills Mathematics

Summative assessments are likely to be most reliable where skills are tested using questions set in different contexts. For example, a question on time management may be in the context of cooking in the practice assessment and then planning a journey in the summative assessment.

Currently there is only one Unit assessment support pack using the Unit-by-Unit approach for Mathematics and Lifeskills Mathematics Units although there are several for Numeracy Units. Will there be more than one published for the other Units?

No. There will only be one Unit assessment support pack using the Unit-by-Unit approach for each Unit. This is with the exception of Numeracy where more packs were developed to illustrate different contexts, some of which may be particularly suitable for adult learners.

How does the transferability of Outcome 2 work in the Mathematics Units?

This transferability **only applies to the Mathematics Course** and **does not** apply to the Lifeskills Mathematics Course.

Evidence from the Numeracy (National 4) Unit is **not** transferable in this way.

Assessment Standards 2.1 and 2.2 are transferable across Units in National 4, National 5 and Higher Mathematics as follows:

- ◆ Candidates undertaking a standalone Unit at National 4, National 5 or Higher must achieve Assessment Standards 2.1 and 2.2 on **at least one** occasion each in the context of that Unit.
- ◆ Candidates undertaking the Course must achieve Assessment Standards 2.1 and 2.2 on **at least one** occasion from across the Course (ie from either Expressions and Formulae or Relationships) at National 4 and on **at least two** occasions from across the Course at National 5 and Higher.

If candidates are required to demonstrate rounding, do they need to show any working?

Yes. For rounding to be successfully demonstrated, the unrounded value should be stated first. Credit for rounding can be given as a follow-through from a previous wrong answer.

My local authority has said that any pupil who has passed the Unit assessments should be presented for the Course assessment. Is this the case?

No. The decision for final presentation is left up to individual centres.

How do I know the difference between C and A/B content?

From the documents, a diamond indicates content that is assessed at Unit level. The arrow head simply indicates content that is not assessed at Unit level. A/B content can come from integration of skills or skills set within a context.

What is DESMOS?

DESMOS is a free graphic calculator, available [online](#).

Do question papers start off with C-level questions and get progressively harder, as was the case in previous years?

All question papers meet the blueprint outlined in the *Course Assessment Specifications*. They will contain 65% C-level marks and 35% A/B-level marks and will also set questions in context.

Has any consideration been given to returning to longer Higher Maths question papers?

The Curriculum for Excellence Management Committee decided that the maximum length of any question paper would be three hours. It was also decided that there would be 65% of the marks at C level and the balance at A/B level. This allows all candidates to demonstrate their potential.

Has any consideration been given to grading the National 4 Maths and Lifeskills Maths Courses?

When the National 4 Courses were developed, the decision was made that they would be assessed internally and would be judged on a pass or fail basis. This decision has not been changed.

General Curriculum for Excellence questions and answers can be found on the [frequently asked questions section](#) of SQA's website.

National 3 Lifeskills Mathematics

How do you deal with a situation where candidates taking National 4 Mathematics have been unsuccessful with their National 4 Added Value Unit but have passed the other three Units? Is the fall back for these candidates National 3 Lifeskills Mathematics? Is it correct to say that they would not have to do any National 3 tasks as they have already passed National 4?

If a candidate has passed **all** the National 4 Mathematics Units apart from the *Added Value Test*, that will be acceptable evidence to award a pass in the National 3 Lifeskills Mathematics Course, even though it is only the *Numeracy* Unit which is hierarchical. The three Unit passes at National 4 would also appear on their Scottish Qualifications Certificate (SQC).

National 4 Lifeskills Mathematics

If you are using National 4 Lifeskills Mathematics — package 2: combined approach, is it correct that candidates don't have to do any additional Numeracy tasks?

If you are using a combined approach which covers the *Numeracy* Assessment Standards, there is no need to do any additional *Numeracy* tasks/tests. You just need to track achievement.

National 5 Lifeskills Mathematics

For candidates taking National 5 Lifeskills Maths, what Unit assessment support packs can be used to assess the Numeracy Unit?

Any of the following packs can be used:

- ◆ Lifeskills Maths Geometry and Measures and Numeracy — combined approach
- ◆ Lifeskills Maths Managing Finance and Statistics and Numeracy — combined approach
- ◆ Numeracy: using an interdisciplinary context
- ◆ Numeracy: using a travel and tourism context
- ◆ Numeracy e-assessment using SOLAR
- ◆ Numeracy Package 3: Unit-by-Unit approach

The National 5 Numeracy bridging pack cannot be used along with passes in Geometry and Measures and Managing Finance and Statistics to generate sufficient evidence for the Outcomes and Assessment Standards of the Numeracy (National 5) Unit.

Why are the gradient formula and Pythagoras's theorem given on the formula list in the question paper?

These formulae are made available so that candidates are examined on the application of the formulae and not on remembering them.

What happens if a candidate tries two different strategies when answering a question?

If a candidate has two attempts at answering a question using two different strategies then both are marked and the higher of the two marks is awarded. This also applies to National 5 Maths.

Where can I find percentage pass rates for the past two years for National 5 Lifeskills Maths?

These can be found on SQA's website in the [National 5 Lifeskills Mathematics Course Reports](#).

What support is being offered by SQA for prelims?

A [specimen question paper](#) is available on SQA's website. No guidance is given for prelims as this is a centre issue.

Numeracy

In what circumstances is it appropriate to use the National 5 Numeracy bridging pack?

Candidates who have passed the three National 5 Mathematics Units have already achieved most of the Assessment Standards of National 5 Numeracy. The Numeracy bridging pack (or equivalent) can be used to generate evidence for the remaining Assessment Standards and candidates who achieve these Assessment Standards can then be entered and awarded a pass for the National 5 Numeracy Unit.

Candidates may wish to gain the National 5 Numeracy Unit in addition to the National 5 Course award or for use in [recognising positive achievement](#).

If candidates don't pass their National 4 Numeracy Unit, but pass certain Assessment Standards, such as 1.1, does that mean that they don't need to be re-tested on this Assessment Standard at National 3 Numeracy?

Yes, that is correct.

National 4 Mathematics

How do you deal with a situation where candidates taking National 4 Mathematics have been unsuccessful with their National 4 Added Value Unit but have passed the other three Units? Is the fall back for these candidates National 3 Lifeskills Mathematics? Is it correct that they would not have to do any National 3 tasks as they have already passed National 4?

If a candidate has passed **all** the National 4 Mathematics Units apart from the *Added Value Test*, that will be acceptable evidence to award a pass in the National 3 Lifeskills Mathematics Course, even though it is only the *Numeracy* Unit which is hierarchical. The three Unit passes at National 4 would also appear on their Scottish Qualifications Certificate (SQC).

If candidates don't pass all of their National 4 Mathematics Units, do they have to sit all the National 3 tasks or only the tasks in areas that they have failed at National 4? Is there a hierarchy?

If they started on National 4 Mathematics and are then being dropped down to National 3 Lifeskills Mathematics, Numeracy is directly hierarchical so any Assessment Standards achieved at National 4 would overtake the National 3 requirements.

In the case of the other two Mathematics Units, they would be required to have evidence for the Assessment Standards for *Manage Money and Data* and *Shape, Space and Measures* Units in order to achieve the National 3 Lifeskills Mathematics Course. Some of this may come from work they have undertaken for *Expressions and Formulae*, *Relationships* or *Numeracy* at National 4, but this would be required to be cross-referenced and it is likely that additional evidence would have to be gathered.

In the National 4 and National 5 Mathematics Unit assessment support packs it states that, for re-assessment purposes, questions covering Assessment Standards 2.1 or 2.2 should use different operational skills. Does this mean that all re-assessments involving these Assessment Standards must be submitted for prior verification?

No, this is not necessary. For re-assessment of Assessment Standards 2.1 or 2.2, the re-assessments should either be attached to a different operational skill from the same Unit (ie one of the sub-skills as listed in the Evidence Requirements for each Unit and also listed in the 'Judging evidence' table in the Unit assessment support packs) or should involve the same sub-skill but be in a different context/require a different strategy. Re-assessments are not required to be prior verified if they are taking the same basic approach as outlined in any of the Unit assessment support packs. It is only if there is a substantially different approach that they would be expected to be submitted for prior verification.

Added Value Unit

Can we develop our own assessments for the National 4 Added Value Unit?

Yes, from 2015–16 centres can develop their own Added Value Unit assessments. We would strongly advise getting these prior verified before use with candidates. This is a free service. For further information, please visit SQA's [prior verification](#) home page.

In the Added Value Test for Mathematics and Lifeskills Mathematics, are candidates always required to state the correct units in their answers?

Candidates are required to state the correct units in most cases. The *Numeracy* Unit is part of both Courses and emphasises contexts and the correct use of units. Where it is not necessary for the units to be shown for full credit to be given, the units will appear in brackets, eg (£)12.54 or 5.6(m). The bank of additional questions should have the same principles applied as illustrated in the Added Value Tests by allowing omission of units in a few cases.

National 5 Mathematics

Is rationalising denominators such as $\sqrt{2} + 5$ included in National 5 Mathematics?

Candidates are only expected to be able to rationalise denominators such as $\sqrt{2}$ as a matter of routine.

In National 5 Maths, will the coefficient of x^2 always be 1 and the coefficient of x be even?

The coefficient of x^2 will always be 1, but the coefficient of x can be odd.

When solving inequalities, can the variable be left on the right-hand side in the final answer, eg $4 > x$?

Yes.

Do candidates always need to show the unrounded answer before rounding?

At Unit level: yes, but not necessary for Course assessment. It is good practice to show the unrounded answer before rounding. An incorrectly rounded answer in the question paper could lose 2 marks if the unrounded version is not shown.

Is $\frac{14}{3}$ acceptable as a final answer?

Yes. If a mixed number is required then the question will state 'give your answer as a mixed number'.

Will rationalising a denominator with a complex surd be examined?

A routine question involving rationalising a complex surd will not appear in the question paper. However, it could be the final part of a reasoning question following on from an earlier part involving finding the product of a complex surd and its conjugate.

In the National 4 and 5 Mathematics Unit assessment support packs it states that, for re-assessment purposes, questions covering Assessment Standards 2.1 or 2.2 should use different operational skills. Does this mean that all re-assessments involving these Assessment Standards must be submitted for prior verification?

No, this is not necessary. For re-assessment of Assessment Standards 2.1 or 2.2, the re-assessments should either be attached to a different operational skill from the same Unit (ie one of the sub-skills as listed in the Evidence Requirements for each Unit and also listed in the 'Judging evidence' table in the Unit assessment support packs) or should involve the same sub-skill but be in a different context/require a different strategy. Re-assessments are not required to be prior verified if they are taking the same basic approach as outlined in any of the Unit assessment support packs. It is only if there is a substantially different approach that they would be expected to be submitted for prior verification.

Higher Mathematics

If a candidate has passed any Units from Higher Mathematics but it is then decided that they will sit the National 5 Mathematics question paper rather than the Higher question paper, will the Higher Unit passes count towards the National 5 Mathematics Course award?

Yes.

The Applications Unit at Higher (H22J76) can be used in place of the Applications Unit at National 5 (H22J75).

The Expressions and Functions Unit (H4LC76) at Higher can be used in place of the Expressions and Formulae Unit at National 5 (H22F75).

The Relationships and Calculus Unit (H4LD76) at Higher can be used in place of the Relationships Unit at National 5 (H22G75).

The Higher Unit passes will appear on the Scottish Qualifications Certificate as well as the National 5 Course Award.

Why is the unsimplified form acceptable at Higher but not at National 5?

At National 5, the question will ask for the equation to be written in its simplest form.

What is an acceptable level of rounding for a question with no specific rounding requirements?

Generally, answers rounded to three significant figures are appropriate, but working until the final answer should not be rounded.

What, exactly, is required to get full credit when completing nature tables?

For nature tables, communication appropriate to the context of the question is required. For example, arrows around one turning point, with the other turning point ignored could be insufficient; and incorrect notation may be penalised. There is guidance in the Unit assessment support packs as to what is expected.

When translating log graphs, does the asymptote have to be drawn?

Yes, it is important that the asymptote is drawn and identified.

In the past paper Marking Instructions, general marking principle 8 states that 'In final answers, numerical values should be simplified as far as possible, unless specifically mentioned in the detailed marking instructions'. Does this mean that candidates will be penalised for not simplifying their answers?

Candidates will be penalised unless otherwise specifically mentioned in the Marking Instructions.

Advanced Higher Mathematics of Mechanics

Can the Mathematical Techniques for Mechanics Unit be awarded on the basis of passing the Methods in Algebra and Calculus Unit?

Evidence generated for the Methods in Algebra and Calculus Unit may also be used for the Mathematical Techniques for Mechanics Unit. Care should be taken to ensure that the evidence meets all the Assessment Standards.

Specifically, Assessment Standards 1.1, 1.2 and 1.4 are directly equivalent but Assessment Standard 1.3 is not:

- ◆ A candidate who **has demonstrated competence in all three sub-skills** from Methods in Algebra and Calculus Assessment Standard 1.3 has generated enough evidence for Mathematical Techniques for Mechanics.
- ◆ A candidate who **has demonstrated competence in two of the sub-skills** will need to be assessed on the remaining sub-skill from Mathematical Techniques for Mechanics — ‘applying integration to a range of physical situations’ before an assessment judgement can be made.

Candidates must be entered and resulted for each Unit separately.