ACT Board of Senior Secondary Studies

Public Consultation Report 2020

Mathematics Framework

- This report has been prepared following public consultation.
- All feedback submitted as part of the consultation process has been recorded and analysed.
- The responses to the feedback have been compiled following the deliberations of the Framework writing team.
- Amendments to the Framework have been made where required, as a result of the consultation process.

Public Consultation Report 2020
Mathematics Framework

Topic	Comment	Framework Developers' Response
Q1 RATIONALE The rationale provides clarity about the subject's broad scope, distinctive nature and importance.	1. A lot of fluff here. "This is achieved through setting and monitoring personal and academic goals, taking initiative, and building adaptability, communication, and teamwork. Students develop their ethical understanding by considering the social consequences of making decisions based on mathematical results." ?????	The rationale describes the nature of the subject in general terms. The rationale describes **<u>why</u>** and **<u>how</u>** learning in a subject is valuable to students' senior secondary studies. The rationale identifies the distinctive 21st century nature of the subject.
	2. - mathematics does not describe much of the contemporary world (this is far too vague) - two important skills that mathematics teaches are problem-solving in novel situations and spatial skills - neither are mentioned	Problem solving is stated in the opening paragraph. '*Problem-solving in novel situations and spatial skills'* is covered by problem solving. This detail would occur in the course.
	3. The rationale should state in some form that generalist is the power of mathematics and the core reason it is worth studying. 5, 12, 13 are one set of side lengths which make a triangle right angled. The condition a^2 + b^2 = c^2 describes the sides of every right angled triangle.	Developers to consider inserting a sentence about *'generalist and abstraction thinking'*.
	4. I think the importance of learning mathematics and in developing critical thinking and problem solving skills could be emphasised	Problem solving is stated in the opening sentence: *Mathematics is a way of thinking in which problems are explored and solved through observation, reflection and logical reasoning.* Problem solving has also been inserted in the final paragraph.

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Mathematics Framework

Q2 GOALS The goals comprehensively describe the intended learning.	1. There needs to be clarification as to what the goal "evaluate the potential of mathematics to generate knowledge in the public good" means and what it would look like in terms of assessment. This goal is stated in the Achievement Standards which makes a universal understanding essential.	Ethics is a general capability. Teachers will elaborate on ethics in their program of learning. The use of mathematical data is a feature of contemporary debate on a wide range of issues.
	2. Two of the goals need a knife taken to them: they are overly wordy and make no sense evaluate the potential of mathematics to generate knowledge in the public good (instead: 'evaluate the role of mathematics in society') - reflect on thinking ('reflecting on learning' is fine, but reflecting on thinking is ridiculous)	Ethics is a general capability. Teachers will elaborate on ethics in their program of learning. The use of mathematical data is a feature of contemporary debate on a wide range of issues. Reflecting on thinking is an important skill. The ability for students to reflect on their thinking is stated in the Alice Springs (Mparntew) Education Decoration (2019) document: *successful learners are able to think deeply and logically, and obtain and evaluate evidence as the result of studying fundamental disciplines*
	3. Generalising and the finding of solutions is once more omitted.	*Finding of solutions* is broadly covered in the first and second goal.
Q3 ASSESSMENT Do you think the Assessment Task Type table provides flexibility for colleges to assess students according to their needs and interests? Please provide a comment.	1. Too flexible. While there is an addendum that no more than 30% is unsupervised. There is no specification of an expectation the assessment to be unsupervised (there is no lower limitation on the % of a task; could be unsupervised 5% with validation 30%, effectively leaning towards 95% test, as an example). In a subject area that is traditionally entrenched in test assessment, there is little/no explicit direction for students to express creativity and engage over longer periods with mathematical problem solving that explicitly counts as assessment.	The ACT Board of Senior Secondary Studies considers all teachers as highly accomplished professionals who work hard to address the needs and interests of all students in their classroom. The architects of the senior secondary system made schools responsible for assessment decisions. There is a diverse range of courses written under this framework. The task type table provides flexibility for teachers to engage in a range of pedagogical approaches. Tests alone would address some but not all knowledge, understandings and skills listed in the Achievement Standards. Students will need the opportunity to investigate, be creative and problem solve to satisfy the

		Achievement Standards. 95% tests would be identified at Moderation Days as pedagogically unsound.
	2. I have several concerns with the proposed changes to the assessment in the new Framework: 1. It needs to be made clear that the rule "No task be weighted more than 50% for a standard 1.0 unit" will not be applied to 0.5 units. If it is, the use of 0.5 units will be unfairly penalised under the framework. We treat Q units as half of an S unit, which means a 70% task in a Q unit is equivalent to a 35% task in an S unit, which meets the weighting requirement. Q units are essential to the assessment of students in our college, and they must continue to be balanced fairly against S units as they were in the previous framework. 2. There should be no requirement that students complete non-supervised assessment tasks. As a faculty, we moved away from non-supervised tasks several years ago as the integrity of the tasks were compromised by parents, siblings, older students and tutors doing the tasks. Requiring such tasks to then be validated creates excessive workload for teachers, when the validation task is the only part of the assessment item that validly ranks the students in the cohort. 3. Mandating a problem-solving task per semester restricts the ability of colleges to meet the needs of their students. Other non-test type tasks can be more appropriate for assessing the content of the unit and but they may not meet the definition of problem solving. Encouraging teachers to use a variety of assessment tasks is important, but not to the point of restricting the options that teachers have. If the word "Requirements" is	No task be weighted more than 50% for a standard 1.0 unit does not apply to a half standard 0.5 unit. The Task type table has been amended. Non supervised tasks - There is a diverse range of courses written under this framework. The task type table provides flexibility for teachers to engage in a range of pedagogical approaches. Research indicates that there are a range of unsupervised tasks that can be conducted and maintain academic integrity (see Wolfram). Take home tasks are a standard form of assessment across all learning areas. Take home tasks are a useful pedagogical approach to address diverse learners and engage with the richness of mathematics. Validation of tasks have been made optional. The BSSS considers this as a school-based decision. The requirements are designed to encourage diverse pedagogical approaches. Research indicates that teachers can adopt approaches to uphold academic integrity. In the article Big Ideas in Mathematical Teaching by Dave Tout. He argues A core idea behind mathematical literacy in PISA is mathematical modelling, which assumes that when individuals use mathematics and mathematical tools to solve problems set in a real-world context. A problem-solving task enables diverse learners to develop a deeper understanding of mathematics and its connectedness. *A mark of a good model for/tool for thinking with is that it can help learners gain insight into mathematical structure, not simply get correct answers*.

	changed to "Recommendations" two of my concerns would be resolved.	According to *aamt Desktop Review of mathematics School Education*: Pedagogical Approaches and Learning Resources (2015) "dialogue as a means of learning" and that students learn to "communicate learning in multiple modes". Based on the literature, 'requirement' will remain a heading in the task type table.
	3. Students are required to complete a mixture of supervised and non-supervised tasks. Not clear if this is for the course overall, per year, or per semester. If per semester, then with the recommendation that a validation task be conducted for unsupervised tasks, and a problem-solving task being mandatory per semester, most colleges will need to do four tasks per semester (including some sort of exam/test). Three tasks per semester seems undeliverable. I would like to see the first dot point edited to state that students are required to complete a mixture of supervised and unsupervised tasks in the course (so implicitly stating that this does need to occur every semester). Colleges could then more easily do three tasks in Semesters 2 and 3.	A standard 1.0 Unit is a semester. A half standard 0.5 Unit is a term. The task type table is valid for semester and term units. The validation task has been adjusted. It is now optional. Board policy: *For a standard unit (1.0), students must complete a minimum of three assessment tasks and a maximum of five.* Supervised/unsupervised tasks – The statement has been changed: *Students should experience a variety of task types (test and non-test) and different modes of communication to demonstrate the Achievement Standards.* Non supervised tasks - There is a diverse range of courses written under this framework. The task type table provides flexibility for teachers to engage in a range of pedagogical approaches. Research indicates that there are a range of unsupervised tasks that can be conducted and maintain academic integrity (see Wolfram). Take home tasks are a standard form of assessment across all learning areas. Take home tasks are a useful pedagogical approach to address diverse learners and engage with the richness of mathematics.

	4. Assessment task type table need to be changed. For a half standard unit (0.5), one of the tasks should be up to 75%.	The requirement for 0.5 has been left to the discretion of the college.
	5. No task be weighted more than 50% for a standard 1.0 unit. This does say 1 unit, but in the past has also been applied to half units. This increases the workload for students and teachers if applied to half units. the use of the words "requirements" and "required" is very limiting. Required take home tasks makes it difficult to assess whether the student or the tutor has done the work. the validation needs to be used as the majority f the marks, not the minority.	The requirements are designed to encourage diverse pedagogical approaches and assessment tasks that reflect best practice in inquiry learning. The requirement for 0.5 has been left to the discretion of the college. Research indicates that there are a range of unsupervised tasks that can be conducted and maintain academic integrity
	6. As the Assessment Task Type include "non-supervised" tasks I do not think this allows colleges to assess students. It allows colleges to assess the work of parents, siblings and tutors. As with all BSSS framework documents recently it does not adequately address the requirements of students who do half units in the break down of percentages. This needs to be more clearly specified and to be consistent with the full unit assessment percentages. The use of the words problem solving task limits the type of task that is permitted to only problem solving rather than investigation, research or enquiry task. Although there is again inconsistency in the suggestions of task type. Defining problem solving as problem solving is of a concern. Perhaps rather than "requirements" the section could be "recommendations" to allow educators more flexibility to assess their own students.	No task be weighted more than 50% for a standard 1.0 unit does not apply to a half standard 0.5 unit. The Task type table has been amended. Non supervised tasks - There is a diverse range of courses written under this framework. The task type table provides flexibility for teachers to engage in a range of pedagogical approaches. Research indicates that there are a range of unsupervised tasks that can be conducted and maintain academic integrity (see Wolfram). Take home tasks are a standard form of assessment across all learning areas. Take home tasks are a useful pedagogical approach to address diverse learners and engage with the richness of mathematics. Validation of tasks have been made optional. The BSSS considers this as a school-based decision. The requirements are designed to encourage diverse pedagogical approaches. Research indicates that teachers can adopt approaches to uphold academic integrity.

		In his article *Big Ideas in Mathematical Teaching* by Dave Tout argues: A core idea behind mathematical literacy in PISA is mathematical modelling, which assumes that when individuals use mathematics and mathematical tools to solve problems set in a real-world context. A problem-solving task enables diverse learners to develop a deeper understanding of mathematics and its connectedness. *A mark of a good model for/tool for thinking with is that it can help learners gain insight into mathematical structure, not simply get correct answers*.
	7. Provides wide range of different types of assessment to suit different learning styles and help promote collaborative practice	Noted.
	8. Firstly, how is this question at all relevant when it comes to assessment? But in regards to the assessment task type table in general, the supervised vs non-supervised distinction is the NOT the distinction worth stipulating to schools and teachers in regards to assessment, surely it is 'test' vs 'non-test'.	Courses written under the BSSS Mathematics Framework are designed to provide pathways for diverse learners. The task type table needs to provide flexibility for teachers to assess students and address the needs and interests. The statement relating to supervised and unsupervised has been changed to include 'test' and 'non test'.
	9. Should assessment cater for students 'needs and interests'? Needs, yes. Interests - not so sure! I thought assessment was to rank the students on the extent to which they met the criteria of the unit.	Senior secondary education is about learning. Assessment has many purposes. Research indicates that assessment can engage students in their learning.
	10. Assignments/take home assessments are highly problematic. Very difficult to fairly assess students. Cause unnecessary problems for little benefit. There are other ways to promote high level thinking in mathematics.	The requirements are designed to encourage diverse pedagogical approaches and assessment tasks that reflect best practice in inquiry learning.

	11. should read 'a pitch' instead of 'pitch' (if being consistent with grammar below, which says 'a demonstration'	Text changed to ‘a pitch’.
	12. By saying that unsupervised tasks can be no more than 30% BUT NO MINIMUM, that opens up the door for people having unsupervised tasks worth 5%??? Basically seems to be saying we can just do all tests? It doesn't lend itself to people using different task types??	The ACT Board of Senior Secondary Studies considers all teachers as highly accomplished professionals who work hard to address the needs and interests of all students in their classroom. The architects of the senior secondary system made schools responsible for assessment decisions. There is a diverse range of courses written under this framework. The task type table provides flexibility for teachers to engage in a range of pedagogical approaches. Tests alone would address some but not all knowledge, understandings and skills listed in the Achievement Standards. Students will need the opportunity to investigate, be creative and problem solve to satisfy the Achievement Standards. 95% tests would be identified at Moderation Days as pedagogically unsound.
	13. Requirements include at least one problem solving task per semester. Problem solving is not listed as a task type. Is this an accidental omission? A definition of problem solving is not included. Is something like the PISA definition required to avoid 'problems' such as "answer the following logic problem by constructing a truth table". Problem solving is sufficiently important to spend some lines on it in the framework.	Problem solving is a common term used in the Mathematics context.
	14. The assessment information is unclear. It says that students are required to do a mixture of supervised and non-supervised tasks. It does not state whether that is per unit. If so, does that also imply per half unit. If so, that means there is no flexibility at all for assessment task types in a half unit. You are allowed	The reference to ‘supervised or unsupervised tasks’ has been removed and replaced with a statement that recommends a variety of task types. The conditions of assessment are a school-based decision.

	no more than 3 tasks. One has to be unsupervised (no more than 30%), one has to be a validation of the unsupervised, and one other task (let's for arguments sake, say that is a test, which has to be worth 50% because no task can be weighted more than 50%, even in half units apparently?) That means all you are left with is unsupervised worth 30%, validation worth 20% and test worth 50%. This does not take into consideration the fact that teachers would then be potentially marking hundreds of unsupervised (and problem-solving tasks), within a half unit time frame. This is a workload issue and would make it difficult, at best, for teachers to return work within a two-week time frame. I also believe that there is a significant difference between unsupervised and untimed. My current accredited students would be at greater risk if their tasks were "unsupervised", however their current tasks are not timed, are open ended and they are allowed to use any resource they see fit. I would be not able to use those same tasks under this framework. It in fact would mean I would have to lower the higher order thinking level questions that I have been working to achieve at that level, particularly for those students that have maths-related anxiety. It would be more flexible and allow colleges to create assessment that best fits their needs, if the requirements section was a recommendation section. It could be a requirement that a mix of task types is used across the course. But to specify if they are supervised or not, and that it should be a problem-solving task, seems unnecessarily restrictive and does not allow colleges to provide for the needs of their students. Nor to	Validation of tasks have been made optional. The BSSS considers this as a school-based decision. The requirements are designed to encourage diverse pedagogical approaches. Research indicates that teachers can adopt approaches to uphold academic integrity. Insert *untimed supervised open book test* to the suggested task type table.

	allow colleges to design assessment that allows them to accurately rank and space students, which is the entire point of assessment from the BSSS point of view.	
	15. The sentence that says students are required to undertake supervised and unsupervised tasks means there has to be a take home task each semester. Given in Maths students can go online and get someone to write their maths assignment I don't think this is good. We can have validation but then becomes a lot of work for students for a 15 % item. Our current framework that allows for 0-30% for take home tasks is better. Please reconsider this.	Take home tasks are a standard form of assessment across all learning areas. Take home tasks are a useful pedagogical approach to address diverse learners and engage with the richness of mathematics. Validation of tasks is an important part of academic integrity in mathematics. The requirements are designed to encourage diverse pedagogical approaches and assessment tasks that reflect best practice in inquiry learning. The proposed framework has the same 0-30% for take home tasks.
Q4 ASSESSMENT Do you think the Assessment Task Type table makes provision for a range of pedagogical approaches (i.e. instructional and inquiry-based learning)? Please explain your point of view.	1. It doesn't exclude it, but it doesn't promote it. Teachers will stick with what they are familiar with. Where is the expectation that teachers expand students' horizon and experience with maths beyond the current norm?	The BSSS shares your hope that ACT senior secondary teachers will continue to expand students' horizon and experience with maths beyond the current norm. Senior secondary mathematics teachers have flexibility to design engaging programs of learning to address the needs and interest of students in their classes.
	2. The suggested tasks in the Task Type table are varied and provide guidance as to what approaches teachers can take in both pedagogy and assessment. However, the list of Requirements beneath the table are restrictive. For example: stating that students are required to undertake at least one problem solving task each semester forces a pedagogical approach on colleges which may not suit the needs of the students in a unit of work or the skill of the teacher in using inquiry-based learning. Teachers	In his article *Big Ideas in Mathematical Teaching* by Dave Tout argues: A core idea behind mathematical literacy in PISA is mathematical modelling, which assumes that when individuals use mathematics and mathematical tools to solve problems set in a real-world context. A problem-solving task enables diverse learners to develop a deeper understanding of mathematics and its connectedness. *A mark of a good model for/tool for thinking with is that it can help learners gain insight into mathematical structure, not simply get correct answers*.

	should be encouraged to use a variety of teaching and assessment strategies, including problem solving, but mandating them in the framework is not helpful. If the word "Requirements" was changed to "Recommendations", then colleges would have the flexibility to meet the needs of their students and develop the pedagogy skills of their teachers, without breaching BSSS requirements.	
	3. Yes, but I think this needs more flexibility (see previous point). Very pleased to see the addition of online tests/quizzes as these tasks can give valuable (formative) information to the students on their learning.	Noted.
	4. Assessment task type table need to be changed.	Noted.
	5. Due to the "requirements" the different approaches are unable to be used within this framework for assessment. Untimed tasks are not mentioned; investigative or discovery tasks are not under the heading of "problem solving".	The suggested task list is not exhaustive.
	6. Once again an irrelevant question. What has assessment got to do with pedagogical approaches? Nothing.	Assessment and pedagogy are linked.
	7. Good to see inclusion of online adaptive tasks and emphasis on investigations.	Noted
	8. This is true!	
	9. What's to explain? yes, all those task types allow teachers to use either an instructional or inquiry-based approach	Noted

	10. By saying that unsupervised tasks can be no more than 30% BUT NO MINIMUM, that opens up the door for people having unsupervised tasks worth 5%??? Basically seems to be saying we can just do all tests? It doesn't lend itself to people using different task types??	The ACT Board of Senior Secondary Studies considers all teachers as highly accomplished professionals who work hard to address the needs and interests of all students in their classroom. The architects of the senior secondary system made schools responsible for assessment decisions. There is a diverse range of courses written under this framework. The task type table provides flexibility for teachers to engage in a range of pedagogical approaches. Tests alone would address some but not all knowledge, understandings and skills listed in the Achievement Standards.
	11. The suggested task types seem to effectively encompass Contemporary Mathematics (literacy) to Specialist Mathematics/IB courses. inquiry is covered by investigation. instruction is covered by multiple other types.	Noted.
	12. Due to the restrictions listed above, it is in fact quite restrictive. It would be better if the requirement was a mix of task types is required across a course. That way teachers are able to choose the task types that best suit the content of what they are teaching, as well as the group of students they are teaching with consideration given to other restrictions (such as time, the particular cohort, any learning requirements of particular students etc).	Advice in the task type table states: *Students should experience a variety of task types (test and non-test) and different modes of communication to demonstrate the Achievement Standards.*
Q5 ACHIEVEMENT STANDARDS The A-E grade descriptors are clear and comprehensive	1. There are minimal word exclusions and adverb changes between the levels. Very open to subjective interpretation.	The design specification for senior secondary Achievement Standards (AS) is based on the ACARA design specifications for AS. The educational theory underpinning the design is blooms taxonomy. The A-E scale is differentiated according to cognitive demand (A is Evaluate - E is Identify). In

descriptions. Please explain your perspective.		addition, Year 11 and Year 12 are differentiated according to cognitive demand and volume of learning.
	2. They will take time to adjust to, but they are comprehensive.	Noted.
	3. Agree with most of the descriptors, but I am not sure how teachers are expected to assess/evaluate the last two dot points on the achievement standards. In particular, how are we to "evaluate the potential of mathematics to generate knowledge in the public good"?	Ethics is a general capability. Teachers will elaborate on ethics in their program of learning. The malleability and use of mathematical data is a feature of contemporary debate on a wide range of issues.
	4. But do parents read these?	Achievement Standards are for students, teachers and the community.
	5. The language used in the grade descriptors strongly mirrors Blooms taxonomy and demonstrates a clear step between successive bands.	Noted.
	6. Excellent to see 2 achievement standards instead of 2-5. There was overlap before. It makes more sense to have 'can answer question' and 'can show working'	Noted.
	7. Some of the descriptors are very similar and only vary by a word or two so it can be difficult to 'allocate' these.	The A-E descriptions reflect cognitive demand and volume of learning.
	8. That ridiculous phrase has reappeared 'evaluates the potential of Mathematics to generate knowledge in the public good' which is overly wordy and meaningless. A better phrase might be 'evaluates the role of Mathematics in contemporary society'.	Ethics is a general capability. Teachers will elaborate on ethics in their program of learning. The malleability and use of mathematical data is a feature of contemporary debate on a wide range of issues.
	9. The term "advanced" (11 T descriptor) means different things to different people. Is other wording possible? Again in 11T "generate knowledge in the public good" means different things to different people. gamers may have very different views than others about public good.	Ethics is a general capability. Teachers will elaborate on ethics in their program of learning. The malleability and use of mathematical data is a feature of contemporary debate on a wide range of issues. The statement will be clarified in a program of learning and in tailored rubrics.

Q6 ACHIEVEMENT STANDARDS Do the Year 12 T Achievement Standards reflect higher expectations for students learning in comparison to the Year 11 T Achievement Standards? Please explain your perspective.	1. The wording is complex and needs a mathematical index to decode the wording. There are too many components in individual criterion. There would need to excessive and exceptional assessment tasks to validly assess the full requirements of an A grade student. This needs rationalisation and could better reflect the difference expected between Y11 and Y12. Roughly, there are 21 components to meeting the descriptors for A at 12T level. • critically and creatively applies mathematical concepts in a variety of complex contexts to routine and non-routine problems • synthesises information to select and apply mathematical techniques to solve complex problems in a variety of contexts • constructs, selects and applies mathematical models to a variety of contexts in routine and non-routine problems • uses digital technologies efficiently to solve routine and non-routine problems in a variety of contexts	The Framework includes the common curriculum elements which defines the verbs used in the Achievement Standards. The components in each criterion draw from the draft ACARA Achievement Standards. Each component reflects sophisticated thinking processes that defines the learning area. No one task is supposed to assess all the Achievement Standards at once.
	2. There appear to be higher expectations, but I won't be as clear on this until I start implementing them.	Noted.
	3. Yes. Whilst in the subject area, Units 3 & 4 content are higher level, the grade descriptors should also reflect higher expectations as previous knowledge is assumed with transfer of that knowledge into understanding and reasoning.	Noted.
	4. Why would I have higher expectations for Year 12s doing the Year 11 unit? Makes no sense. Need one set of achievement standards or they need to be written to the unit, written to the Year doesn't make sense.	There are no year 11 units or year 12 units. Units in courses can be delivered in any particular order. Year 12 students have higher conceptual mathematical skills compared to Year 11 students beginning the course.
	5. Don't have time to thoroughly read them all now, but they do look better than they were.	Noted.

	6. They are very similar and once again vary by a small amount	The design specification for senior secondary Achievement Standards (AS) is based on the ACARA design specifications for AS. The educational theory underpinning the design is blooms taxonomy. The A-E scale is differentiated according to cognitive demand (A is Evaluate - E is Identify). In addition, Year 11 and Year 12 are differentiated according to cognitive demand and volume of learning.
	7. Yes Year 12s are required to synthesise information. I haven't got time to compare the differences -my screen is too small. If I printed them out I could more easily spot differences. There is a mistake also. The Year 12 'A' student should not able to represent only 'some' mathematical concepts.	The word 'some' has been removed.
	8. Clearly the M achievement standards do not. There is only one set. The formatting of the T standards being different makes comparing them annoying but there does seem to be more required from year 12.	BSSS design specifications for M Achievement Standards require 1 set of Achievement Standards. This decision was made in collaboration with expert teachers of students with mild to moderate disabilities.
	9. I'm not sure why year 11 T student who get an E can "identify solutions to routine problems" but year 12's can only "identify solutions to routine problems in structured contexts." Surely either both or neither are in structured contexts, or year 11 is in structured contexts, but year 12 isn't.	Added the text: 'in structured contexts"
	10. Although does not appear to be very different	The design specification for senior secondary Achievement Standards (AS) is based on the ACARA design specifications for AS. The educational theory underpinning the design is blooms taxonomy. The A-E scale is differentiated according to cognitive demand (A is Evaluate - E is Identify). In addition, Year 11 and Year 12 are differentiated according to cognitive demand and volume of learning.
Q7 ACHIEVEMENT STANDARDS Do the Year 12 A Achievement	1. The criteria have a level of expectation well beyond the traditional cliental of an Accredited mathematics course. The demands will discourage	The standard for accredited mathematics courses corresponds with standards articulated for accredited courses in other learning areas.

Standards reflect higher expectations for students learning in comparison to the Year 11 A Achievement Standards? Please explain your perspective.	students from undertaking accredited level study and there is little chance most would be able to meet the criteria. High expectations can be maintained without making the Accredited course a slightly watered down version of the Tertiary course. Independent criteria, that reflect the intention of having the A cohort should be developed.	
	2. As above.	
	3. But is it really necessary to have two sets of descriptors? Educators - when given the freedom of setting their own type of assessment tasks - are able to assess students at different levels anyway.	Year 11 and Year 12 Achievements Standards for T and A is a Board decision. The rationale for having Year 12 and Year 11 Achievement Standards is to indicate higher expectation for learning. In addition, this decision aligns with ACARA design specifications for senior secondary Achievement Standards.
	4. Why would I have higher expectations for Year 12s doing the Year 11 unit? Makes no sense. Need one set of achievement standards or they need to be written to the unit, written to the Year doesn't make sense.	Year 11 and Year 12 Achievements Standards for T and A is a Board decision. Year 12 Achievement Standards reflect higher expectations for students learning compared to Year 11 Achievement Standards, which is reflected by teacher feedback at Moderation Day.
	5. Ditto	N/A
	6. I can't be bothered making any more comments. I feel like I'm doing somebody else's job for them. This document has not been proof-read thoroughly enough.	Curriculum in the ACT is a joint enterprise.
	7. There appears sufficient difference to agree. Again formatting annoyingly makes different tables more difficult to compare. Can we have a single font size across all tables?	Noted.
	8. I like that the Accredited achievements standards for year 12 require students to reflect on the appropriateness of their solutions.	Noted.

Q8 ACHIEVEMENT STANDARDS Are the Mathematics Modified Achievement Standards for Years 11 and 12 students with a mild to moderate disability appropriate? Please explain your perspective.	1. I don't disagree, but I've not assessed students with mild to moderate disabilities so I don't have expertise in this area.	Noted.
	2. I don't believe that A-E grade is appropriate scale for students on a Modified program. The reason for this is that the level of Modification is based on that student, so is an 'A' grade reflective of student's achievement or too much modification??? Would prefer competency style grading	A-E grade descriptions are differentiated on cognitive demand and the degree of assistance provided to the student. Achievement Standards underpin the integrity of the credential. They report on what the student can achieve.
	3. Where is the place for general comment?	N/A
	4. See comment above	N/A
	5. difficult with modified units as each modified student can be very different.	A-E grade descriptions are differentiated on cognitive demand and the degree of assistance provided to the student. Achievement Standards underpin the integrity of the credential. They report on what the student can achieve.
	6. Is there an underlying assumption that "all students cannot learn" behind having a single set of standards?	The M Achievement Standards are designed to include a range of students with mild to moderate disabilities and describe their learning. This format was recommended by expert teachers in the field. A-E grade descriptions are differentiated on cognitive demand and the degree of assistance provided to the student. Achievement Standards underpin the integrity of the credential. They report on what the student can achieve.
	7. It is hard to moderate a Modified package though as the level of modification is based on the student and shouldn't be used to compare students.	A-E grade descriptions are differentiated on cognitive demand and the degree of assistance provided to the student. Achievement Standards underpin the integrity of the credential. They report on what the student can achieve.