23 September 2016

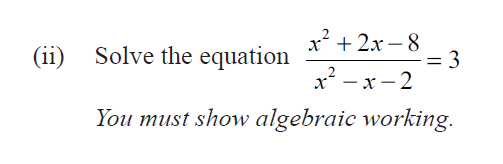
To the Hon Minister of Education, Hekia Parata,

We are writing to express our concern and dismay about the Level 1 Algebra Exam, sat by thousands of 15 and 16 year olds up and down the country last week.

I am sure you are aware of the importance of this issue that has had extensive media coverage and we ask that you join us in enquiring of the NZQA as to why their moderation processes did not pick up the inconsistency between the Algebra Level 1 standard, the skills and understandings in level 6 of the Mathematics curriculum, the clarifications and specifications of this standard as published on the Ministry of Education’s website (all of which teachers refer to and base their teaching on), and the questions in this exam.

We have asked NZQA to acknowledge that the Algebra exam was not set at the right level of the NZ curriculum, and apologise to students, teachers and parents for the stress and anguish that this exam has caused. This they have not yet done, and we ask that you encourage them to do so, so that New Zealand Maths teachers and students can move forward. So far, NZQA have been seeking to justify their exam as being at the correct level, despite numerous letters sent to them highlighting specific evidence of this not being the case. Some questions are extremely similar to previous year’s Level 2 Algebra paper, for example please compare Question Two (e)[Day 1] in the MCAT with the

***2014 Level 2 Algebra exam Question 2(b)(ii) which was an excellence question***



Further, Algebra standard AS91027 states “solve simple equations involving exponents such as  
 x3 = 8, 5x=125” and “simplifying algebraic expressions involving exponents, such as (2x4 )3 .

Question One (d) [Day 1 of the MCAT], to solve 4 x 2x = 26x+3 is well beyond curriculum level 6 and without doubt sits at Level 2 with skills from AS91261.

After students would have spent a considerable amount of time doing their best with these overly difficult questions, they were then given an investigation (Question 4d in MCAT Day 1), which can be looked at in numerous different ones. This is a rich and interesting task for students to investigate and discuss in a group situation, but certainly not appropriate for students to undertake when they are likely to have had only 5 or 6 minutes left of their exam time. Is it any wonder students came out of the exam totally frustrated and disillusioned with the examination process.

We are in total support of the Otago Mathematics Association’s full analysis of the exam which I attach for you here, should you require further evidence of our displeasure with this exam. The only response that we have heard has been received from NZQA so far, from any of the numerous complaints that we know have been laid, is that as questions had a combination of level 4 and 5 skills, the student should be able to combine those skills in the one question. A pertinent analogy given to us by a PE teacher, is that given a level 4 skill is to be able to ride a bike, and level 5 skills are simple juggling and doing headstands, then NZQA is saying that therefore student should be able to juggle while doing a headstand on a bike. This somewhat amusing analogy highlights the issue that being able to do skills individually is certainly not the same as being able to put those skills together. We do not buy NZQA’s argument.

Our second request, that although we appreciate is not a completely satisfactory solution, given that a large number of students study a lot harder for the “real thing” than they do for “mock exams, is that NZQA give schools the option of using a student’s derived grade exam mark as their final grade. Allowing this option, would go some-way towards allaying the concerns of some year 11 students. NZQA has responded to this request by saying that “there would be some very unhappy schools if a derived grade was allowed”. Where is their evidence for this? Have they asked any schools for their feedback on this idea? As nearly every school in the country is unhappy with the current situation, this argument just does not wash. Again we implore you to use your power to direct that NZQA does this as a minimum measure towards righting a wrong.

Our third request is that NZQA provide us with clarification as to what level all the other external mathematics exams that students will be sitting at the end of this year are pitched at, and if they are significantly different to previous years, as the MCAT was, that sample papers be provided to us. Our confidence in NZQA’s ability to set papers at the correct level has been undermined and students of all levels across the country are now deeply concerned about what their end of year exams are going to look like. This is causing unnecessary stress, anger, and impediment to motivation, and we must receive an urgent reply to this request so that students can be reassured on day one of term 4.

As Minister of Education, we are sure that you are as concerned as we are about the inadequate processes at NZQA and the ill effects that this exam has caused, and we ask that you do everything within your power to investigate what went wrong and reassure the NZ students, teacher and public that things will be put right.

Our final request is one for the Ministry: that a review of the Algebra level 1 standard is undertaken with mathematics teacher input. We are deeply concerned about the direction that level 1 Algebra seems to be being taken and would very much like for the New Zealand mathematics teachers and the Ministry of Education to work together so we can move forward towards a standard that values and reflects the vital algebraic skills and understandings that underpin higher level mathematics.

As I am sure you will appreciate, this is an extremely busy time of year for teachers and we would not be diverting our attention from our students to write letters to you at this time if we did not think this matter was extremely important.

We eagerly await your response and support.

Yours sincerely

Margaret Priest and the Wellington Girls’ College Mathematics Department