Additional Feedback and Comments on the Texas Mathematics Standards
Dixie Ross

Thank you again for giving me this opportunity to provide input on the new Texas Mathematics Standards. I will be in attendance at the October 7 meeting and look forward to conversing with the committee members in person regarding the various inclusions, exclusions and changes in emphasis in our new TEKS.

One point of clarification I would like to make immediately regards my previous feedback in which I expressed the opinion that more courses need not be developed. Some people interpreted that to mean that I did not support some of the courses we currently offer. I meant that we don't need any further courses developed beyond those we already have. The Math Models and Advanced Quantitative Reasoning courses are absolutely essential and well-designed courses that will provide many students with an appropriate fourth year math option. I just don't want to see courses like "statistics for athletes," "geometry for landscape design," or "measurement for culinary arts" being offered as a way to skirt the increased rigor being expected of Texas students.

I would also like to get clarification for myself on some of the points brought up in the testimony at the State Board of Education hearing on September 15. For example, there was a suggestion that formulas (for sum of an infinite geometric series and law of sines, for example) be derived. I agree with that, but that would be part of the teacher's instruction. I'm not sure if that is something I would expect students to be able to do independently and over which they could be assessed. Are the TEKS supposed to direct teacher instruction or help serve as a blueprint for what we expect students to be able to do?

Also, there were many comparisons to other states' and other countries' curriculum. However, those other places don't expect every student to complete second year algebra and pre-calculus. Our courses are designed to serve the general population as opposed to a select group of students. Texas students who intend to pursue a STEM career generally choose the preAP versions of courses that most schools in our state offer. Perhaps it's time to offer greater specificity as to what those classes should include beyond the general requirements that we expect every student to master.

I do believe that stronger statements regarding the expectation of fluency with basic operations are desirable. Beyond this, I will make no further comment on elementary standards since that is outside of my experience and expertise.

In the middle school standards (6N08, 6N09), I would like to see fluency with integer operations included somewhere, possibly in 7^{th} grade? Also in 6M05, students should be able to distinguish between variability within a group and variability over time and be able to choose appropriate representations for those cases.

Throughout Algebra 1 and Algebra 2, there are places where knowing whether technology is to be used would be very helpful. For example, A1L14, A2L08, and A2A02.
In A1A14, students are expected to factor trinomials with a=1. Where is factoring with a values other than 1? Can we require students to determine factors without the use of technology? In A1A01, I do not understand what is meant by "transform." Are students solving equations that involve radicals? Rationalizing denominators?

In A2L04, what matrix methods do we want students to use? Gaussian elimination, Cramer's Rule, inverse matrix method? With technology or without?

A2Q01, I believe there is an error. You cannot determine the equation of a quadratic function based only on its vertex. There must be something missing there.

In PG17, would like to see arctan x included.

PG08, students need to be able to convert equations (including those for conics) between rectangular and polar forms.

Would like to see a data strand in pre-Calculus as well for the reasons stated in my SBOE testimony.

Once again, I think that the committees have done an excellent job with the limited time they have had to work on these drafts. I think that incorporating suggestions from the reviewers and others will produce even stronger documents. Thank you for your service on this project and I look forward to seeing you on October 7.

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