
Math Standards

The Background:

In October 2014, Governor Haslam announced the creation of a standards review website that would be open to the public to review and offer feedback on what Tennessee students should know and be able to do by the end of each K-12 school year in both mathematics and English language arts (ELA). At the time of that announcement, the Governor also laid out a comprehensive standards review process. This process was further expounded upon by the 109th General Assembly in Public Chapter 423, which charged the State Board of Education with overseeing the review of math and ELA standards that would culminate in replacing the Common Core State Standards with rigorous Tennessee Education Standards.

The initial standards review public website opened in November 2014 and was continuously open until April 2015. Thousands of people responded to the standards resulting in 131,424 reviews and 20,344 comments. After the data was compiled, it was reviewed by a committee of math and ELA educators. The educators that comprised these two teams reviewed every individual standard and revised them using the public feedback as well as their expertise.

The revised set of standards was posted for another period of public feedback throughout fall 2015. The Standards Recommendation Committee (SRC), appointed by the Governor, Lt. Governor, and Speaker of the House of Representatives, reviewed the revised standards and heard feedback from across the state through regional meetings and roundtables with educators, parents, the higher education community, and other stakeholders. The SRC used the feedback collected via a website and roundtables to guide their final recommendations for additional standards revisions. The standards then underwent another round of revision based on the specific recommendations of the SRC. The SRC approved the new standards at their January 20, 2016 meeting.

Standards are included for grades K-8, the required high school courses of Algebra I, Geometry, Algebra II (or Integrated Math I,II,II), as well as the options for the required fourth year math course. Fourth year math courses have been revised to include a new course, Applied Mathematical Concepts, while three previous courses (Finite Math, Discrete Math, and Advanced Algebra and Trigonometry) are proposed to be discontinued as permanent courses. Other key changes in the new standards focus on the inclusion of statistical concepts into earlier grades, streamlining of Algebra II content, a revised format, and increased clarity.

Since first reading of the standards, the State Board staff reviewed additional feedback submitted to State Board of Education members from the public, higher education faculty for the SAILS mathematics program, and industry representatives. Changes since first reading include the following items:

- **Grammatical and formatting changes:** Several changes have been made throughout the standards document to ensure that proper and consistent language and formatting are used. This also included reordering the high school standards to appear in the order in which they are taught.

- **Clarification of student expectations for mathematical formulas:** Language was added to the following standards (and the corresponding Integrated Math standards) to clarify that students are expected to know the relevant formulas from memory: 4.MD.A.3, 5.MD.C.5b, 6.G.A.1, 6.G.A.2, 6.G.A.3, 7.SP.D.8b, 8.EE.B.6, 8.F.A.3, 8.G.C.7, A1.A.REI.B.3b, A2.N.CN.A.2, A2.A.SSE.B.3, A2.A.APR.B.3, A2.A.REI.B.3, A2.F.IF.B.4a, A2.F.BF.A.2, A2.F.TF.B.3, A2.S.CP.A.3, A2.S.CP.B.6, G.SRT.C.8a, G.SRT.C.8b, G.C.B.4, G.GPE.A.1, G.GPE.B.5, and G.GMD.A.2.
- **Correction of examples:** An error in the example of standard 6.RP.A.3b was corrected.
- **Mathematical vocabulary:** Standards 3.OA.A.1 and 3.OA.A.2 were revised to include the mathematical terms “product” and “quotient.”
- **Corrections to the Integrated Math sequence:** The following Integrated Math standards were revised to clarify expectations and issues with their alignment to the traditional math sequence: A1.A.CED.A.1, A2.F.LE.A.1, M1.A.CED.A.1, M1.F.IF.B.3, M1.F.IF.B.4, M2.A.CED.A.1, M2.A.CED.A.1, M2.F.IF.A.1, M2.F.BF.A.1, M2.S.CP.B.5, M3.A.APR.A.2, M3.A.APR.B.3, M3.A.CED.A.2, M3.G.MG.A.1, M3.S.ID.A.1, M3.S.ID.B.2, M3.S.IC.A.1, and M3.S.IC.A.2.
- **Elimination of Several Bridge Math Standards:** The following Bridge Math standards were removed due to further narrow the course content: B.N.Q.A.3, B.N.Q.A.4, B.A.REI.A.1, B.F.IF.A.3, B.S.ID.B.3 parts b and c, and B.S.ID.C.5.

The Recommendation:

The SBE staff recommends adoption of this item on final reading.