

Grade 10 Mathematics Testing: Further Focus

Background

ESHB 2224 changed the high school English Language Arts (ELA) and mathematics tests to 10th grade, starting in spring 2018. From 2015 to 2017, the Smarter Balanced high school tests were administered to 11th graders and a proficient score was a College and Career Ready indicator. The 10th grade test will be a measure of “on track” to College and Career Ready, as it is in grades 3–8.

For the 10th grade test, educators identified and recommended excluding high school Mathematics K–12 Learning Standards content that is usually first introduced in a third-year mathematics course such as Algebra 2, Integrated III, or a CTE equivalent. Educators also identified content usually introduced in subsequent courses after a third-year mathematics course and recommended excluding this content as well. Based on the educators’ recommendations, OSPI worked with the test vendor to modify the content of the Smarter Balanced high school mathematics test bank for spring 2018.

For mathematics, it is important to remember that students should receive instruction toward the entirety of the high school Mathematics K–12 Learning Standards throughout their high school experience. This includes the Standards for Mathematical Practice and Content Standards. This generally requires three or four years of instruction.

Overview

The assessment focus for select standards included in 10th grade testing fall into two categories: function types and Claim 1 Task Models.¹

Function Types for 10th Grade Mathematics Testing

Assessment in 10th grade focuses on specific function types. Some function foci apply to entire standards and others to specific Claim 1 Task Models. The complete list of function types considered during educator review is: Absolute Value, Cube Root, Exponential, Linear, Logarithmic, Polynomial, Quadratic, Radical, Rational, Square-root, and Trigonometric. If no focus is given for a standard or task model involving function content, assessment items may include any of the function types in the complete list above.

Function Type Focus by Standard

Standard ^A	Functions of Focus
A-SSE.2	Linear, Quadratic, Exponential, Polynomial
A-CED.1 and A-CED.2 A-REI.10 F-IF.8 and F-IF.8b F-BF.1, F-BF.1a, F-BF.1b, and F-BF.3 S-ID.6a and S-ID.6c	Linear, Quadratic, Exponential
A-REI.5	Linear, Quadratic
F-IF.7e	Exponential

^A Includes all Claim 1 task models aligned to these standards.

¹ Claim 1 in mathematics is Concepts and Procedures. More information about Claim 1 is available in the [Content Specifications](#). More information about Task Models is available in the [Item and Task Specifications](#).



Function Type Focus by Task Model

Smarter Balanced Claim 1 Target and Task Model (Version 3.0 Item Specifications)	Functions of Focus
Target C, Task Model 2c Target J, Task Model 2a Target K, Task Models 1b, 1c, and 1g Target L, Task Models 2 and 3d Target M, Task Models 1a, 1b, 4a, 4b, 4c, and 4d	Linear, Quadratic, Exponential

Task Models for 10th Grade Mathematics Testing

Assessment in 10th grade focuses on specific Claim 1 task models. The task models listed here come from version 3 of the Smarter Balanced Item Specifications, posted on the [Smarter Balanced Test Development and Design webpage](#).

Task Models Focus by Claim 1 Target

Smarter Balanced Claim 1 Target	Task Models of Focus (Version 3.0 Item Specifications)
Target A	TM1a, TM2a, TM2b, TM3a, TM3b, TM4a, TM4c, TM5b, and TM5c
Target B	All
Target C	All
Target D ^B	TM1a, TM1b, TM1d, and TM1f
Target E	TM1a, TM1b, TM2a, TM2b, TM3a, TM3b and TM3c
Target F	All
Target G ^B	All
Target H	TM1a, TM1b, TM1d, TM3a, and TM3b
Target I	TM1, TM2a, TM2b, TM3a, TM3c, and TM4
Target J ^B	TM1a, TM1b, TM1c, TM1d, TM2a, TM2d, TM2f, TM3a, TM3b, TM3c, TM4a, TM4b, TM4c, and TM4d
Target K	All
Target L	TM1a, TM1b, TM2, TM3a, TM3b, TM3c, TM3d
Target M ^B	TM1a, TM1b, TM3, TM4a, TM4b, TM4c, and TM4d
Target N ^B	TM1a and TM1c
Target O	All
Target P	All

^B Note function focus in Function Focus by Standard table above for these Targets.



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