

Comparison of a Mathematics Standards of Learning (SOL) Computer Adaptive Test and a Traditional SOL Test

A Computer Adaptive Test (CAT) is an assessment that is customized for every student based on how the student responds to the questions. This is in contrast to the traditional test in which all students who take a particular version of the test respond to the same test questions.

Computer Adaptive Testing is similar to traditional testing in many ways, but there are also some differences. This table highlights some of the characteristics that a Mathematics SOL CAT and a traditional SOL test have in common and some of the characteristics that are different. Explanations are included for clarity.

Test Characteristics	Same	Different	Explanation
Content assessed	X		Each test format assesses the Standards of Learning (SOL) for a particular course.
Question types/format	X		Each test format has multiple-choice questions and approximately 15% technology-enhanced items.
Number of test questions		X	For a particular course, the number of test items on a CAT may be different than the number of items on a traditional SOL test. However, all students taking a CAT for a particular course are administered the same number of items. As well, all students taking a traditional form of the test are administered the same number of items. See the CAT SOL Test Blueprints on the Virginia Department of Education Web site for additional information.
Test questions presented to each student		X	A CAT is customized for each student. In a traditional test, all students administered the same test form are presented with the same questions.
Presentation of content	X		Mathematics test questions are generally presented in order of reporting category. Each test format continues to do this.
Time to complete the test	X		SOL tests are untimed in both formats. Students should be afforded as much time as needed to complete the test, but are generally expected to complete the test in one day. School divisions have the option of administering the grades 3, 4, and 5 SOL reading tests over two days; however, school divisions are strongly encouraged to consider the changes that have been implemented in the online elementary school SOL reading tests when finalizing their test administration plans.
Allowable test manipulatives	X		Each test format allows students access to the same test manipulatives such as a scientific calculator or scratch paper. The SOL Examiner's Manual contains a complete list for each SOL test.
Online tools within TestNav 8	X		Online tools are available in each format within the testing software such as the choice eliminator, eraser, highlighter, or pencil. The SOL Examiner's Manual contains a complete list for each SOL test. Practice test items are available to provide an introduction to online navigation and online tools.
Navigation through the test		X	In a mathematics SOL CAT, questions must be answered in the order they are presented. Each question must be answered completely before the student can move on to the next question. A student cannot skip any questions, nor return to a previously answered question. This is in contrast to the traditional test, where students can answer questions in a section of the test in any order. For specific CAT navigation instructions, refer to the practice item guides on the Virginia Department of Education website.
Special accommodations	X		The special accommodations provided for each test format is the same, but the manner in which some accommodations are delivered to students may be different for a CAT. The SOL Examiner's Manual provides instructions.
Scaled scores	X		Scaled scores remain on a scale of 0 to 600, with 400 indicating pass/proficient and 500 indicating pass/advanced for both test formats. Scaled scores for a CAT are computed using the number of questions answered correctly, as well as the difficulty level of the questions answered correctly.