Online Calculators in the Test Delivery System

2017–2018

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About Calculators in the Test Delivery System

Students are able to use an online calculator for some grades and subjects of the South Dakota Smarter Balanced Assessments as an alternative to handheld calculators, as allowed by the South Dakota State Board of Education.

The Desmos HTML5 calculator is used by millions of students around the world and can be accessed from the web, or on iOS, Android and Chrome apps. This calculator is fully accessible at the WCAG 2.0 AA level (optimized for blind and visually impaired students).

Three versions will be used in South Dakota Smarter Balanced Interim Assessment, Practice Tests, and Training Tests:

Standard Calculator

Available for: Mathematics Grade 6

http://demo.tds.airast.org/DesmosForAssessments/TDSCalculator.html?mode=basic&url=https://sd.tds.airast.org/student

Scientific Calculator

Available for the following tests: Mathematics Grades 7-8

http://demo.tds.airast.org/DesmosForAssessments/TDSCalculator.html?mode=scientific&url=https://sd.tds.airast.org/student

Full Function Calculator

Available for the following tests: Mathematics Grade 11

http://demo.tds.airast.org/DesmosForAssessments/TDSCalculator.html?mode=graphic&url=https://sd.tds.airast.org/student

The Desmos site (www.desmos.com) contains a wide array of resources to help both teachers and students become familiar with the calculator.

The full Desmos user guide is available at:
https://s3.amazonaws.com/desmos/Desmos_Calculator_User_Guide.pdf

The Desmos quick start guide is available at:
https://desmos.s3.amazonaws.com/desmos_quickstart.pdf

Comparison of Previous AIR Legacy Calculator and Desmos Calculator

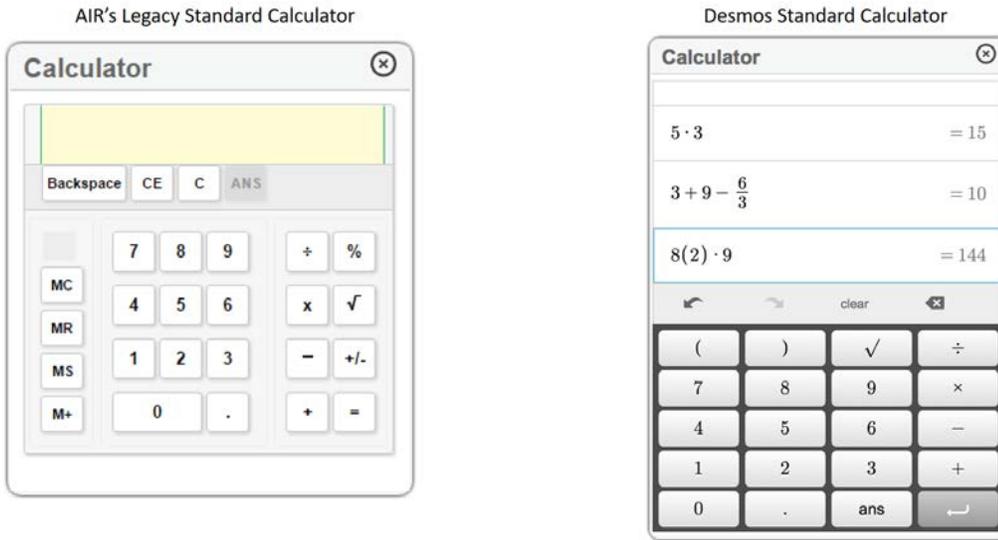## Figure 1. Standard (Four-Function) Calculator – Mathematics Grade 6

AIR's Legacy Standard Calculator

Desmos Standard Calculator

Figure 2. Scientific Calculator – Mathematics Grades 7–8

AIR's Legacy Scientific Calculator
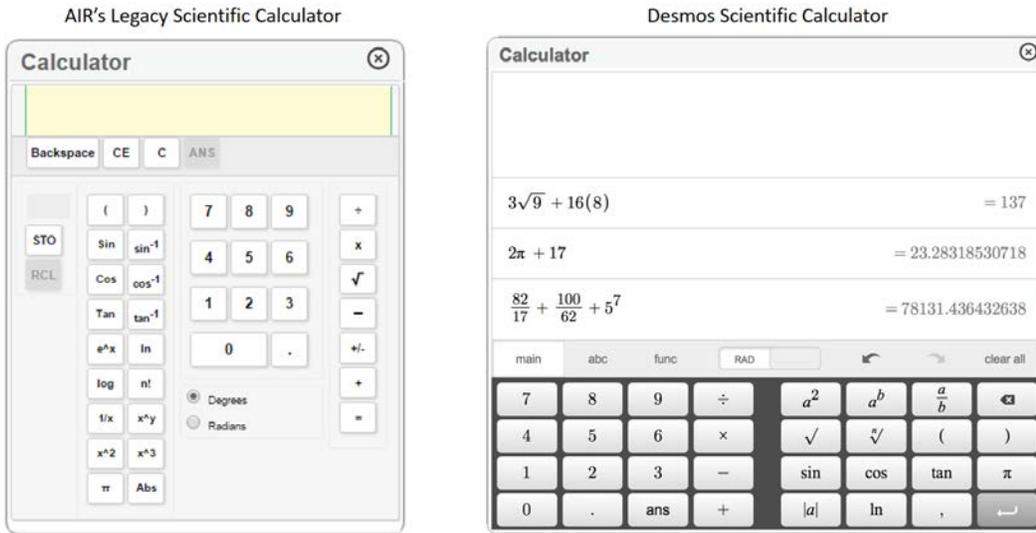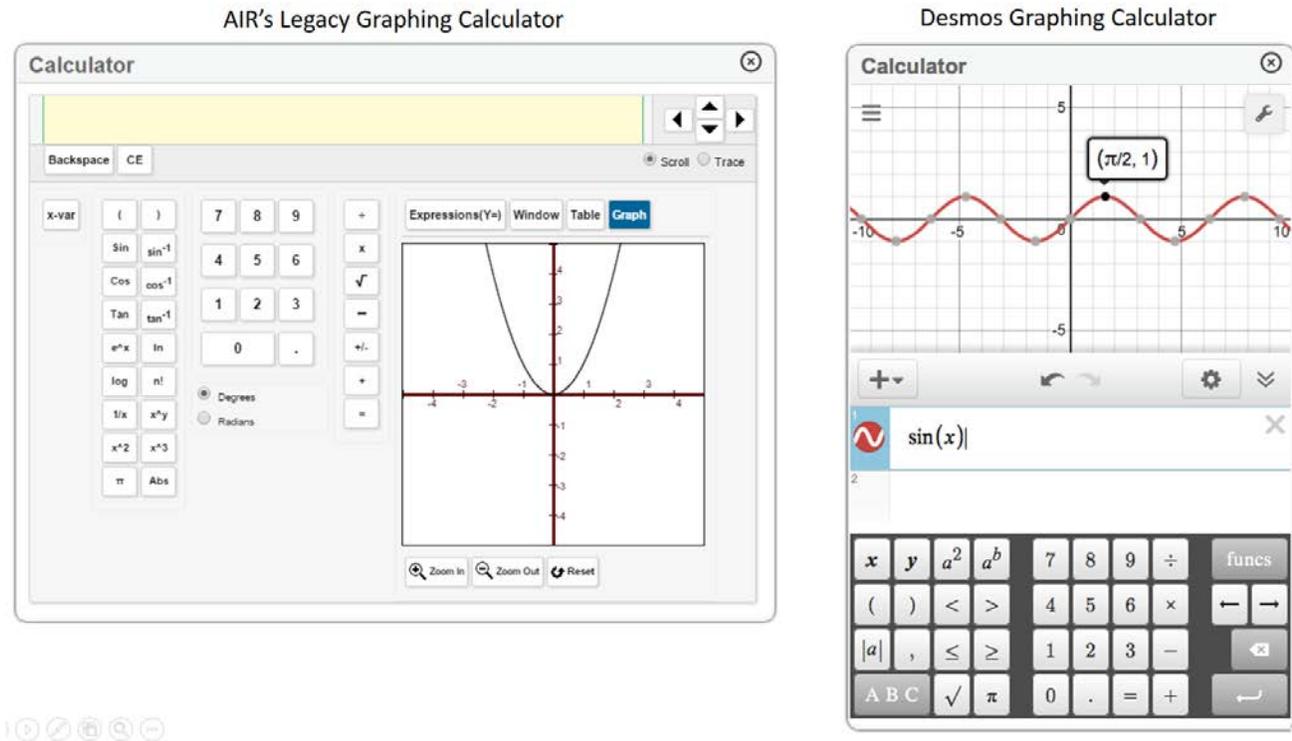
Desmos Scientific Calculator

Figure 3. Full-Function Calculator (Scientific/Graphing, Regression) (High School)

Benefits and Drawbacks to Desmos Calculators

Desmos calculators have multiple benefits including the following:

- Desmos calculators have a more user friendly interface and are easy to use.
- Desmos provides online training modules on how to use the calculator functions.
- Additional functionality is available with some of their calculators. Matrix functionality is coming soon.
- The Desmos calculators are accessible for students using Braille.
- Desmos calculators can be resized. Students can adjust the calculator window to better fit their screens and can toggle between the calculator and the test.

However, one drawback of the Desmos calculators is that they cannot be customized.

Accessing the Sample Desmos Calculators

All sample calculators are available on Practice and Training Tests and within this document. Desktop/home screen shortcuts can also be created so that the sample calculators can be accessed without an internet connection. The online calculators work on all supported browsers, as listed in the *System Requirements for Online Testing* on the South Dakota portal.

Open a Sample Calculator on Windows/Mac/Linux

1. Navigate to the calculator links under About Calculators in the Test Delivery System section.

   Basic:
   http://demo.tds.airast.org/DesmosForAssessments/TDSCalculator.html?mode=basic&url=https://sd.tds.airast.org/student
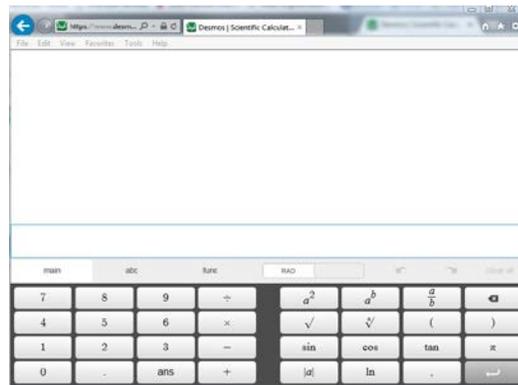
   Scientific:
   http://demo.tds.airast.org/DesmosForAssessments/TDSCalculator.html?mode=scientific&url=https://sd.tds.airast.org/student

   Graphing:
   http://demo.tds.airast.org/DesmosForAssessments/TDSCalculator.html?mode=graphic&url=https://sd.tds.airast.org/student

2. Click on a [**Calculator**] link.

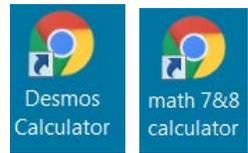   The sample calculator you selected will open in the browser window.

Create a Desktop Shortcut to the Sample Calculator

Note: Ensure the browser window does not take up the full monitor.

1. Use your mouse to hover over the lock icon in the address bar.

2. Click and drag the lock icon to the desktop. A shortcut will appear that says "Calculator" and have the Firefox icon.
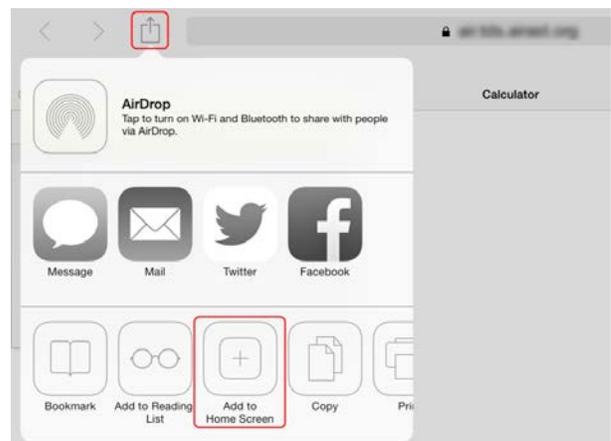
3. *Optional: Rename shortcut icon*
   a. Click in the icon text and it will become editable.
   b. Change the text to what you want (e.g., "Graphing Calculator").

4. Double-click the icon to open the sample calculator. It will open in Firefox.

Open a Sample Calculator on a Mobile Tablet
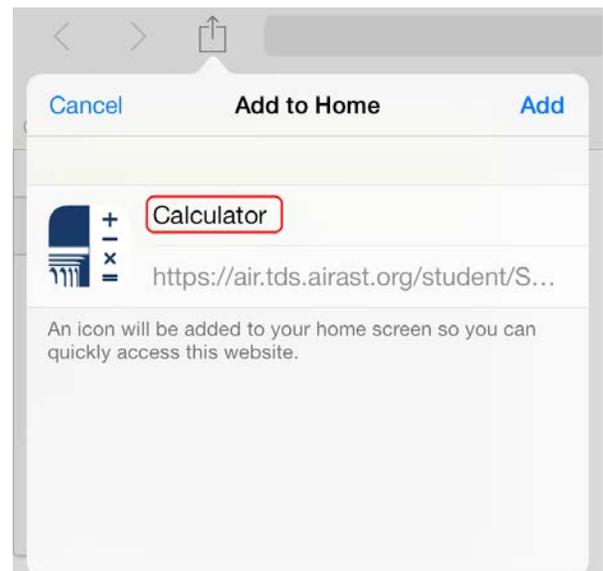
Save a Sample Calculator to your Home Screen for iOS 8

1. Tap the "share" icon [⬆️], which appears just to the left of the address bar.

2. Tap the [**Add to Home Screen**] icon.

3. *Optional: Rename shortcut icon*
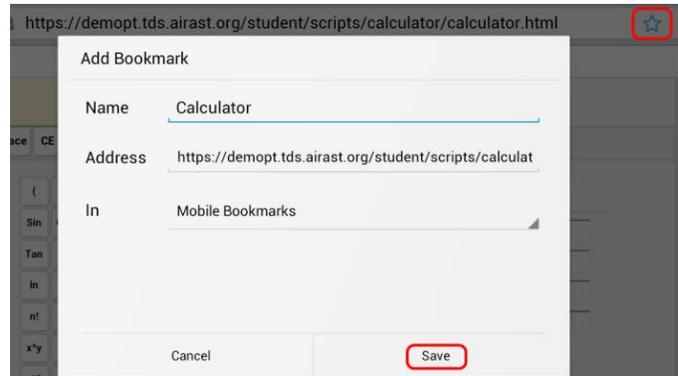   (By default, all sample calculators are named "Calculator.")
   a. Tap on the text that says "Calculator."
   b. Using the tablet keyboard, add or modify text (e.g., "Graphing Calculator").

4. Tap the blue [**Add**] link. The shortcut icon will appear on the Home screen.
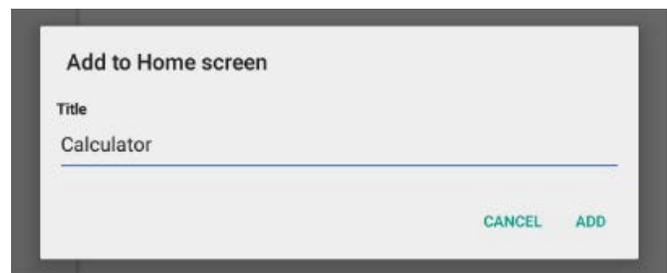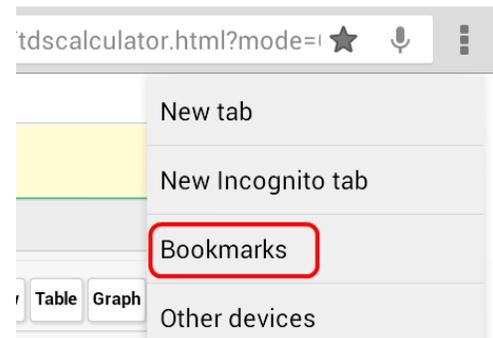
Save the Sample Calculator as a Bookmark

1. Tap the star icon [☆], which appears on the right side of the address bar. The **Add Bookmark** screen will open.

2. *Optional: Modify the bookmark name*
   a. Tap the text and then use the keyboard to change the name.
   b. Tap the down arrow to close the keyboard.

3. Tap [**Save**].

Add the Calculator Bookmark to the Home Screen

1. Tap the menu [⋮] icon, which appears in the upper right corner. The menu will open.

2. Tap [**Bookmarks**]. The list of your bookmarks will appear.

3. Tap on the calculator bookmark.
4. Tap the menu [⋮] icon.

5. Tap [**Add to home screen**]. Another window will pop up. Click the add button. The bookmark will be added to your tablet's home screen.

Change Log

Description	Date
Cutover from 2016–2017	09/22/2017