ClassPad II Help Series	Casio Education Australia - supporting Australian teachers	www.casio.edu.shriro.com.au	Author	Charlie Watson
CP641	Ambiguous Case Of Sine Rule		Date	April 2015
			CPII OS	02.00.2000.0000

An eActivity is used to show ways to deal with the ambiguous case of the sine rule when solving obtuse triangles. In this case the problem is to find the size of angle B when angle C is 55º, AB = 6cm and AC = 7cm.

Start a new eActivity and save it with a suitable filename. Insert a Geometry strip and draw a triangle with the constraints above.

The previous screen shows that angle B is close to 73º.

Now select just the corner B, drag it towards corner C and release.

Measuring the angle B now gives 107º.

Try dragging B to other places. *Hint: Use Edit, Undo if strange things happen!*

Now insert a NumSolve strip.

Use the keyboard to enter the sine rule.

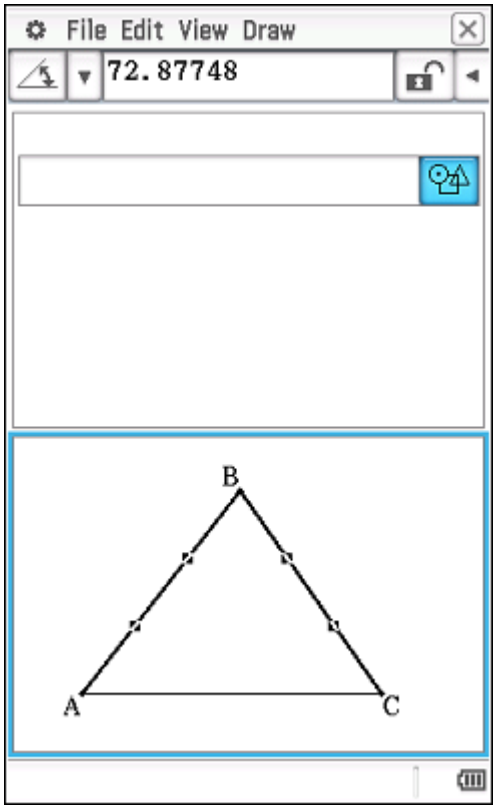
Set the values for a, A and b, and enter 45º as an acute approximation for the solution to B.

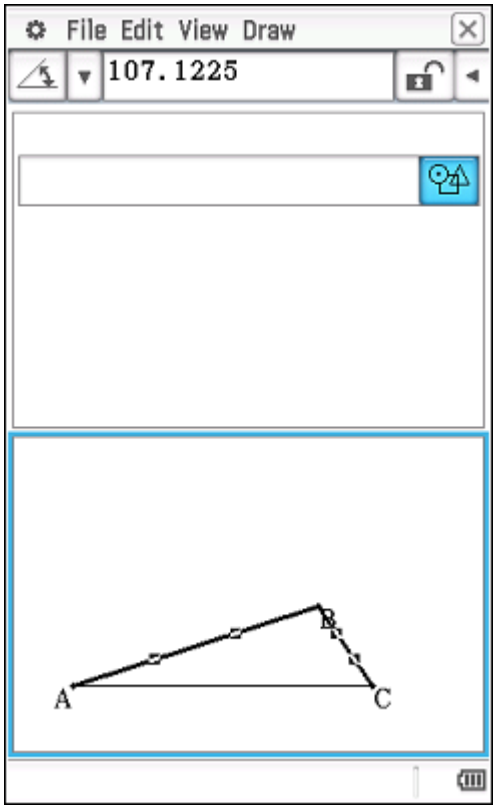
Check the radio button next to B and tap Solve. B = 73º.

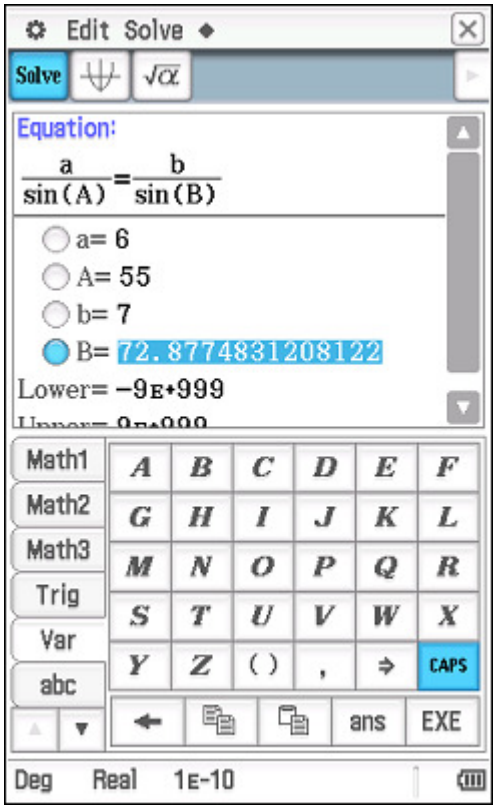
Now enter 135º as an obtuse approximation for the solution to B.

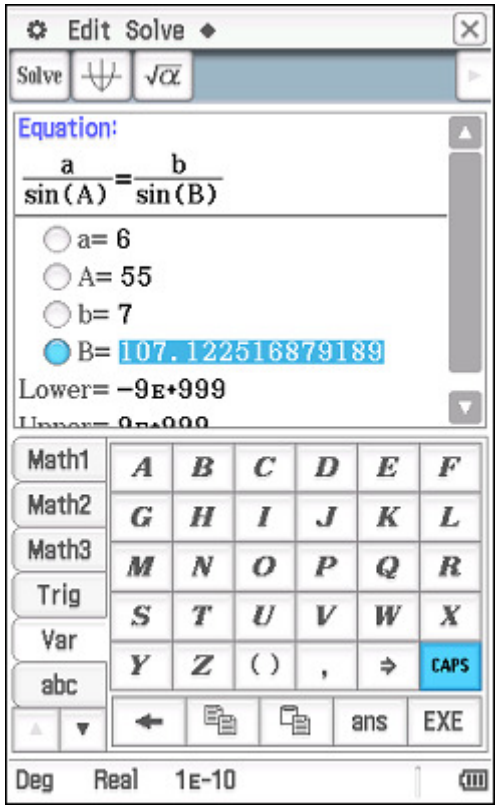
Check the radio button next to B and tap Solve.

B = 107º.









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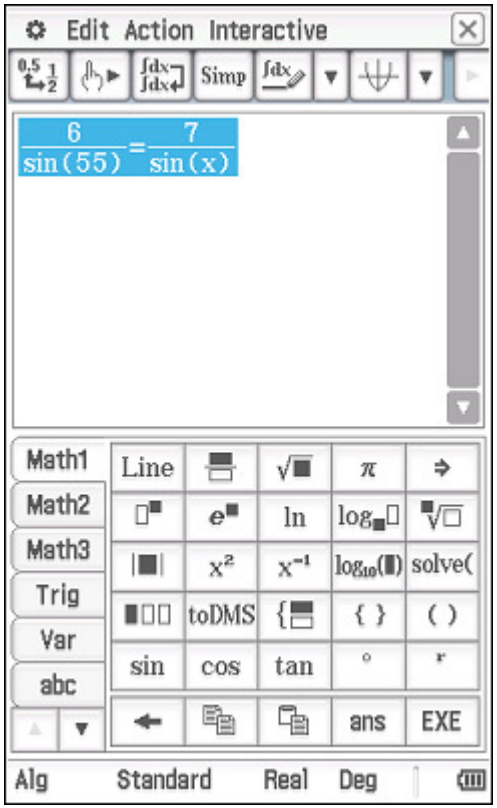
Now insert a Main strip.

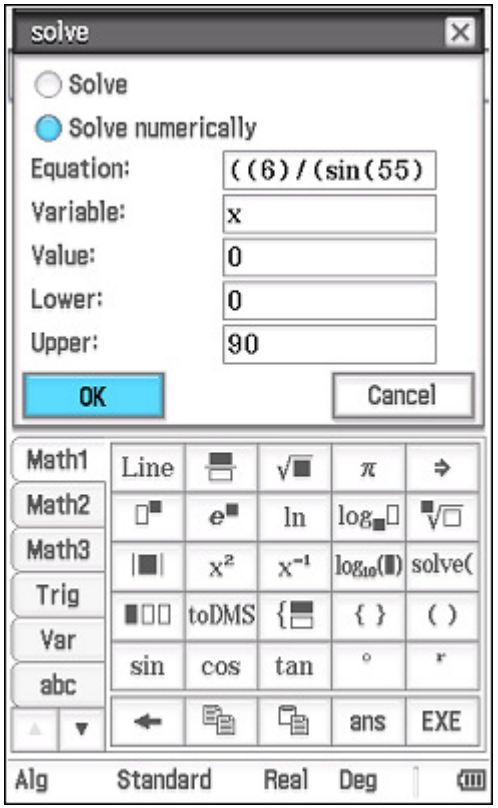
Use the keyboard to enter the equation $\frac{6}{\sin 55} = \frac{7}{\sin x}$ and then select it.



Tap **Interactive**, **Equation/Inequality**, **solve** and tap the Solve numerically button.

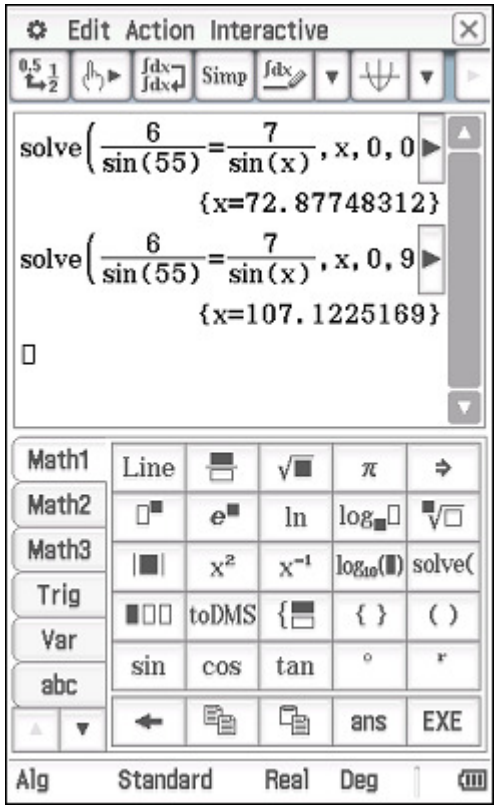
Modify the Upper and Lower values to 0º and 90º (the bounds for acute angles) and then tap **OK**.

A warning appears. Tap **OK**. x = 73º.



Repeat, this time using the Lower and Upper as the bounds for obtuse angles, 90º to 180º.

x = 107º.



Close the Main window and save your updated eActivity.