

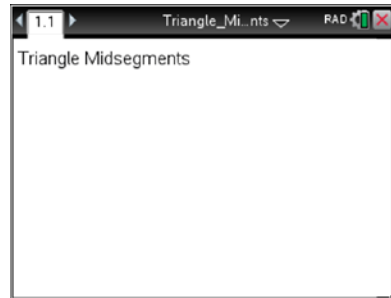


## Activity Overview

In this activity, you will create a triangle with a midsegment, measure a side and the midsegment, define variables, and prepare a spreadsheet to capture data from measurements.

## Materials

- Technology needed (TI-Nspire™ handheld, computer software)



## Steps

### Step 1: Preparing the document

- Open a new document by clicking on > **New Document** > **Add Notes**.
- Type: Triangle Midsegments.



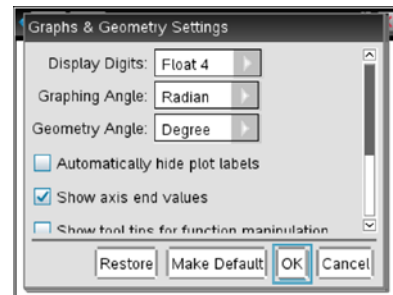
**Note:** To obtain capital letters, press the key, then the letter.

- Press > **File** > **Save As ....**  
Type: Triangle\_Midsegments.  
Tab to and press .



**Note:** To obtain the underscore, press .

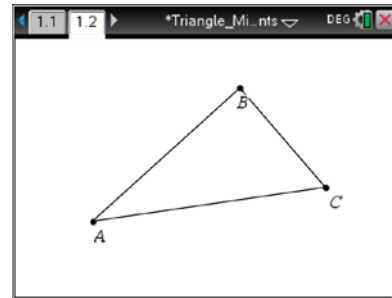
- To add a new page, press > **Add Geometry**.
- To hide the scale in the right corner of the screen, go to **Menu** > **View** > **Hide Scale**.
- Press **Menu** > **Settings**. Select *Float 4* for display digits. Tab to OK and press or .





## Step 2: Drawing triangle $ABC$

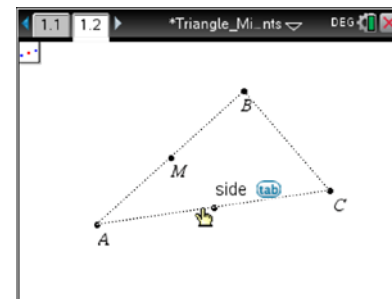
1. Press **Menu** > **Shapes** > **Triangle**.
2. Press to place the first point of the triangle and immediately press **shift** **A** to label the point  $A$ .
3. Repeat steps to complete the triangle, labeling the other points  $B$  and  $C$ .
4. Press **esc** to exit the **Triangle** tool.



**Note:** If the labels were not created when the triangle was created, press **Menu** > **Actions** > **Text** to label the points.

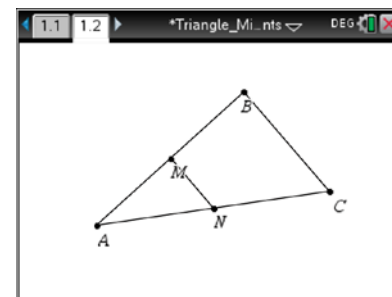
## Step 3: Constructing midpoints of segments $AB$ and $AC$

1. Press **Menu** > **Construction** > **Midpoint**.
2. Move cursor to side  $AB$  of the triangle until the word *side* appears. Press to construct the midpoint. Immediately label the point  $M$ .
3. Construct the midpoint  $N$  of side  $AC$ .
4. Press **esc** to exit the **Midpoint** tool.



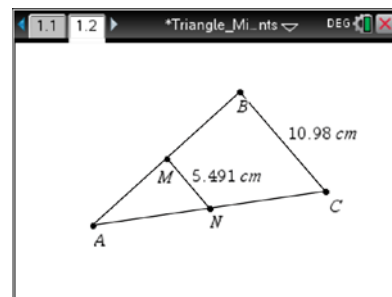
## Step 4: Drawing the midsegment

1. Press **Menu** > **Points & Lines** > **Segment**.
2. Connect  $M$  and  $N$  by clicking on each point.
3. Press **esc** to exit the **Segment** tool.



## Step 5: Measuring the midsegment and $BC$

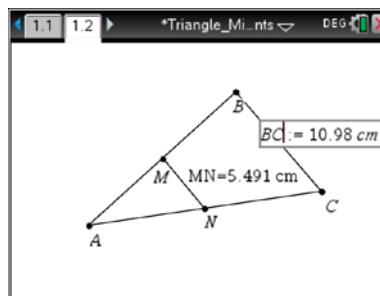
1. Press **Menu** > **Measurement** > **Length**.
2. Click segment  $MN$ . Move the measurement to a desirable location and press to place it.
3. To measure segment  $BC$ , move your cursor over the segment, and press **tab** until *side* appears. Press . Move the measurement to a desirable location.
4. Press **esc** to exit the **Measurement** tool.





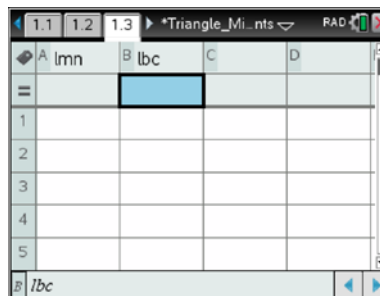
## Step 6: Defining $MN$ and $BC$ as variables

1. Click once on the measurement of  $MN$  to highlight. Press **ctrl** **var**.
2. Type **⇧shift** **M** **⇧shift** **N** **enter** to define the variable.
3. Repeat to define variable  $BC$ .



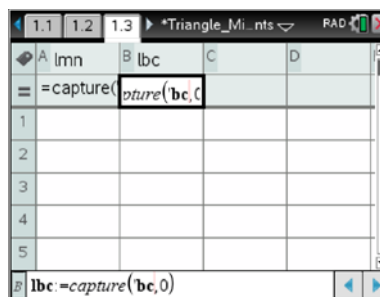
## Step 7: Labeling columns

1. Press **ctrl** **doc** > **Add Lists & Spreadsheet** to insert a spreadsheet page.
2. Move to the very top row above the diamond row. In Column A, type **lmn**. Press **enter**. (Since  $MN$  is defined as a variable, it cannot be used as the heading for the column nor can a space be included in the column heading.)
3. In Column B, type **lbc** for the heading. (the *l* is for *list*)



## Step 8: Defining columns to capture data

1. Move to the diamond row in Column A.
2. Press **Menu** > **Data** > **Data Capture** > **Manual**.
3. Type **mn** for the variable and press **enter**.
4. Move to the diamond row in Column B.
5. Press **Menu** > **Data** > **Data Capture** > **Manual**.
6. Type **bc** for the variable and press **enter**.



## Step 9: Saving the document

1. Press **ctrl** **S**.