



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

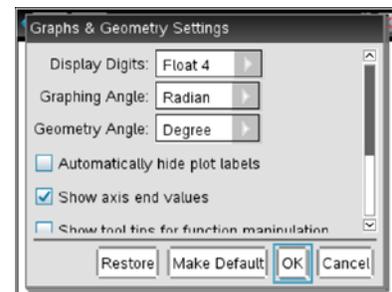
- Open a new document by clicking on > **New Document** > **Add Notes**.
- Type: Triangle Midsegments.

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 .

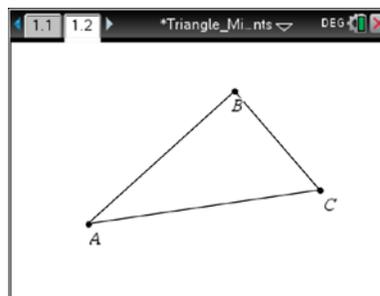
- To add a new page, press > **Add Geometry**.
- To hide the scale in the right corner of the screen, go to **Menu** > **View** > **Hide Scale**.
- Press **Menu** > **Settings**. Select *Float 4* for display digits. Tab to OK and press or .





Step 2: Drawing triangle ABC

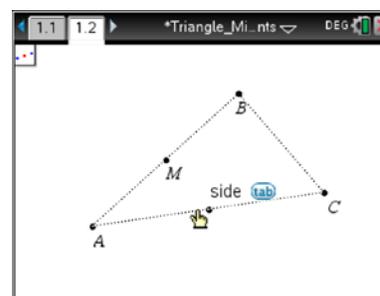
1. Press **Menu** > **Shapes** > **Triangle**.
2. Press to place the first point of the triangle and immediately press **shift** **A** to label the point A .
3. Repeat steps to complete the triangle, labeling the other points B and C .
4. Press **esc** to exit the **Triangle** tool.



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

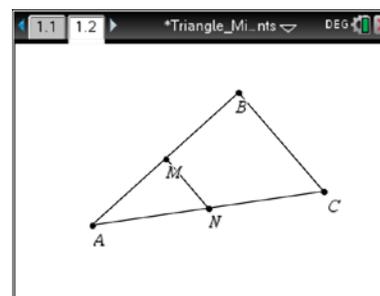
Step 3: Constructing midpoints of segments AB and AC

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.



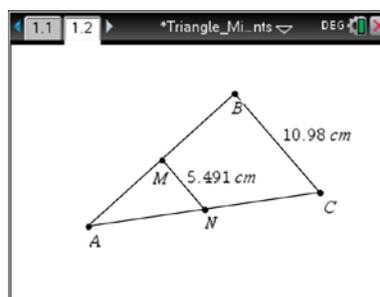
Step 4: Drawing the midsegment

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

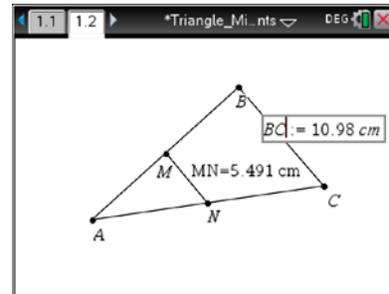
1. Press **Menu** > **Measurement** > **Length**.
2. Click segment MN . Move the measurement to a desirable location and press to place it.
3. To measure segment BC , move your cursor over the segment, and press **tab** until *side* appears. Press . Move the measurement to a desirable location.
4. Press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





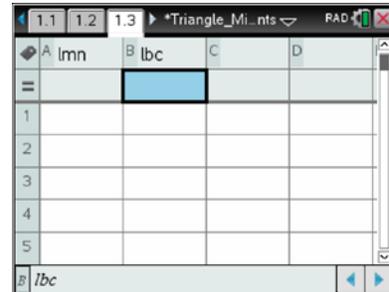
Step 6: Defining MN and BC as variables

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 .



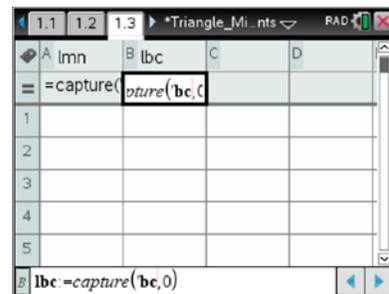
Step 7: Labeling columns

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**.