

## TI-Nspire Technology Lesson

### Unit 7: Drawing Scale Diagrams

On your calculator, press  > 7: My Documents, then open file **u07\_332**.

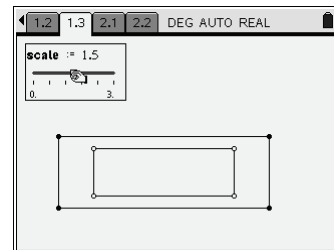
#### Enlarging a Rectangle


On page 1.3, the rectangle with white vertices is the original rectangle. Its scale diagram has black vertices.

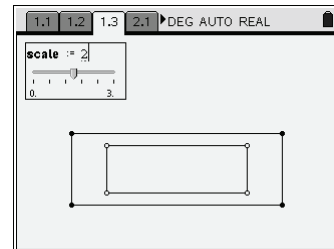
You can change the original rectangle by dragging its vertices.

1. Change the scale factor so the scale diagram is an enlargement of the original rectangle.

- *Method 1:*  
Drag the slider.



- *Method 2:*  
Click the scale factor.  
Type a new scale factor, then press .



2. For what scale factors is the scale diagram an enlargement of the original rectangle?

**When the scale factor is greater than 1, the scale diagram is an enlargement of the original rectangle.**

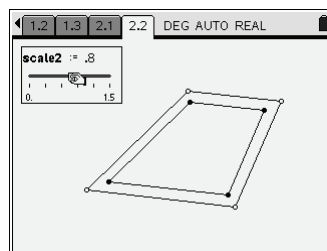
### Reducing a Quadrilateral


On page 2.2, the quadrilateral with white vertices is the original quadrilateral. Its scale diagram has black vertices.

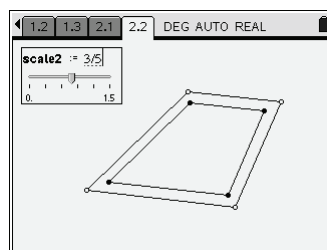
You can change the original quadrilateral by dragging its vertices.

1. Change the scale factor so the scale diagram is a reduction of the original quadrilateral.

- *Method 1:*  
Drag the slider.



- *Method 2:*  
Click the scale factor.  
Type a new scale factor, then press .



2. For what scale factors is the scale diagram a reduction of the original quadrilateral?

**When the scale factor is less than 1, the scale diagram is a reduction of the original quadrilateral.**



3. For which scale factor is the scale diagram the same as the original quadrilateral?

**When the scale factor is 1, the scale diagram is the same as the original quadrilateral.**


### Additional Teacher Notes

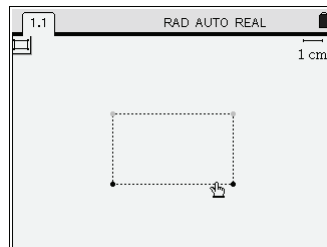
Performing constructions related to this technology lesson on a TI-Nspire

To insert a graphs & geometry page:


- Press  > **2: Graphs & Geometry**.
- Press , then select **2: View > 2: Plane Geometry View**.

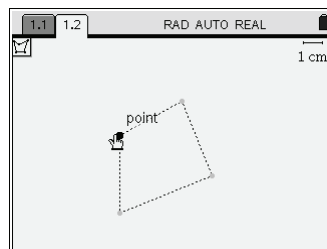
To construct a rectangle:

- Press , then select **8: Shapes > 3: Rectangle**.
- Click once to place a vertex of the rectangle, then move the cursor and click a second time to place one side of the rectangle, then move the cursor and click a third time to place the opposite side of the rectangle.







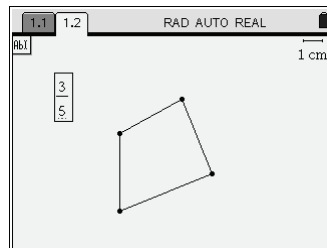
To construct a quadrilateral:

- Press , then select **8: Shapes > 4: Polygon**.
- Click once to place each vertex.  
Click on the first vertex to complete the polygon.




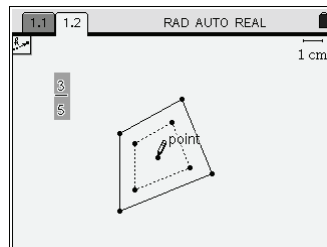
To write a number (the scale factor) on the page:

- Press , then select **1: Actions > 6: Text**.
- Click to place a text box, then type the number and press .
- To change the number, double-click it, then type another number and press .
- To hide the number, press , then select **1: Actions > 3: Hide/Show**. Click on the number.



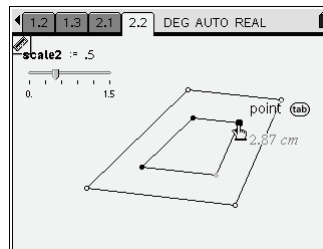
To enlarge or reduce a shape:

- Press , then select **A: Transformation > 5: Dilation**.
- Click on a number (the scale factor), then on a side of the shape, then in the middle of the shape.



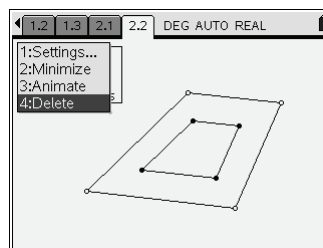
To display the side length of a shape:

- Press **menu**, then select **7: Measurement > 1: Length**.
- Click on one vertex of the shape, then double-click on an adjacent vertex to measure the length of the side between the vertices.



To hide a slider:

- Hover the cursor over the slider.
- Press **ctrl** **menu**, then select **4: Delete**.



To insert a calculator page:

- Press **home** > **1: Calculator**.