Name: _____   Date: _____

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The Menus

File: Used to open, save, close, and print documents.
Edit: Used for standard editing, such as cut and paste, as well as undo and redo actions.

Display: Used to control an object's appearance, and to label/hide/ animate objects.

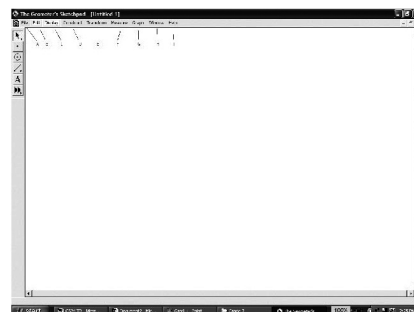**Construct**: Used to construct new geometric objects based on selected objects in your sketch.

Transform: Used to apply geometric transformations to selected objects.

Measure: Used to make measurements on objects in the work space, and to perform calculations.

Graph: Used to create grids and axes for plotting points.

Window: Used to manipulate and switch among open windows within *The Geometer's Sketchpad*®.

Help: Used to access the available help files.

The Toolbox

Selection Arrow Tool: Used to select, move, and transform objects in a sketch.
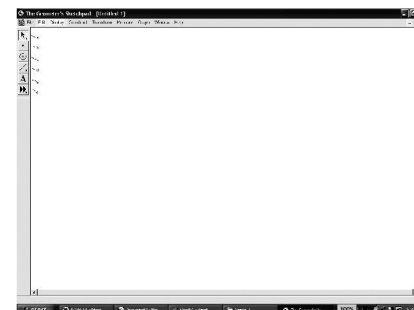
Point Tool: Used to draw and plot points.

Compass Tool: Used to draw circles.

Straightedge Tool: Used to draw line segments, lines, and rays.

Text Tool: Used to create text boxes, which can be merged to label points and lines.

Custom Tool: Allows you to select from existing custom tools, or to define your own.

Creating a New Sketch

• To create a new sketch window, on the **File** menu, click **New Sketch**.

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Opening an Existing Sketch

- On the **File** menu, click **Open…** .
- Navigate to the directory in which the sketch you wish to open is saved.
- Click the name of the sketch you wish to open. Click **Open**.

Saving a Sketch

To save a sketch for the first time:
- on the **File** menu, click **Save**
- navigate to the directory in which you wish to save the sketch
- *The Geometer's Sketchpad ®* will give the sketch a name in the **Filename** text box. To use that one, click **Save**.

  OR

- to give the sketch the name you wish, delete the given name, and type the name you want into the **Filename** text box. Click **Save**.

To resave a previously saved sketch:
- on the **File** menu, click **Save**.

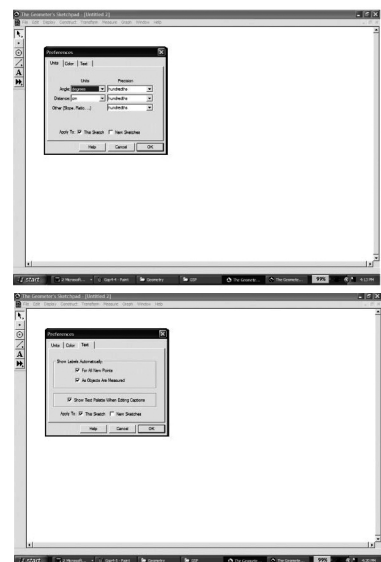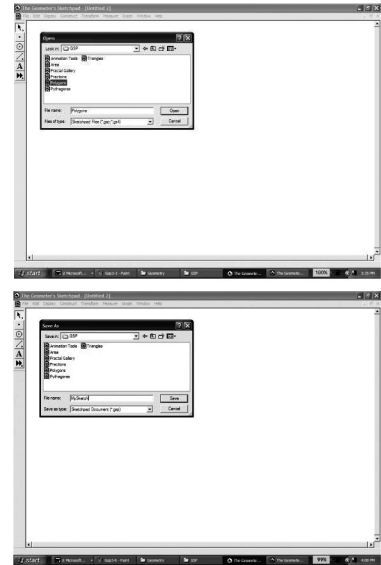### Closing a Sketch Without Exiting *The Geometer's Sketchpad®*

- On the **File** menu, click **Close**.

Exiting *The Geometer's Sketchpad®*

- On the **File** menu, click **Quit**.

Setting Preferences

- On the **Display** menu, click **Preferences…** .
- Click the **Units** tab.
- Select the desired units and precision for **Angle**, **Distance**, and **Other**.
- Click on the **Text** tab.
- If you select **Show Labels Automatically/For All New Points**, *The Geometer's Sketchpad ®* will automatically label points as you create them.
- If you select **Show Labels Automatically/As Objects Are Measured**, *The Geometer's Sketchpad ®* will automatically label measurements you define.

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By clicking the appropriate box(es) next to **Apply To:**, you can also choose whether your selected preferences for **Units/Text** will apply to only this sketch, or to this sketch as well as all new sketches.

Selecting Points and Segments

- Click the **Selection Arrow Tool**. The mouse cursor appears as an arrow.
- Move the cursor to the point or segment you wish to select. When the cursor becomes a horizontal arrow, click the point, and it will be selected.
- To select more than one point or segment, repeat the above step for each item.
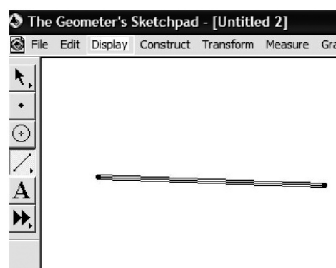
Deselecting

- To deselect a single point or segment, move the cursor to the point or segment you wish to deselect. When the cursor becomes a horizontal arrow, click and the point or object will be deselected.
- To deselect all selected items, click any white space.

Constructing Line Segments

- Click the **Point Tool**, and create two points in the workspace.
- Click the **Selection Arrow Tool**, and select both points.
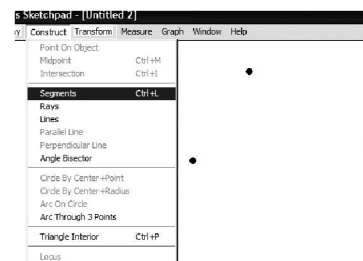- On the **Construct** menu, click **Line Segment**.

  OR

- Click the **Straightedge Tool**.
- Move the cursor to the workspace.
- Click and hold the left mouse button.
- Drag the cursor to form the segment.
- Release the mouse button.
- If you hold down the **Shift** key while dragging the mouse, you can draw horizontal or vertical lines.

Constructing Triangles

- Click the **Point Tool**, and draw three points in a triangular shape in the workspace.
- Click the **Selection Arrow Tool**, and select the three points.
- On the **Construct** menu, click **Segment**.
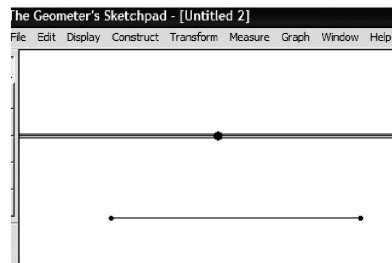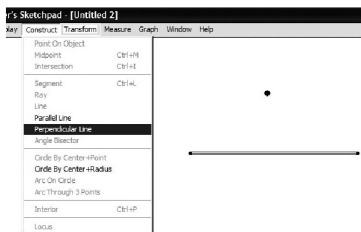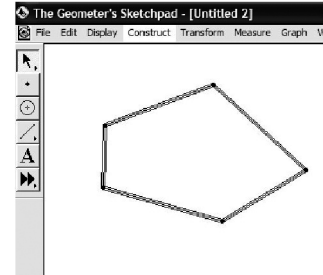
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Constructing Polygons

- Click the **Point Tool**. Draw four or more points in the workspace.
- Click the **Selection Arrow Tool**, and select all the points in either clockwise or counterclockwise order.
- On the **Construct** menu, click **Segment**.

Constructing Parallel Lines
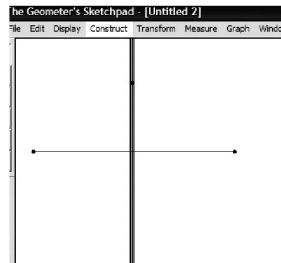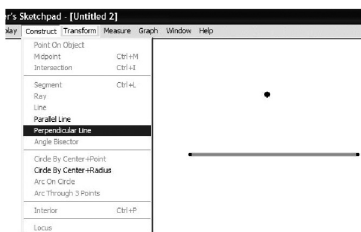
To construct a line parallel to an existing line:
- click the **Point Tool**, and place a point above or below the existing line
- click the **Selection Arrow Tool**, and select the point and the line
- on the **Construct** menu, click **Parallel Line**.

Constructing Perpendicular Lines

To construct a line perpendicular to an existing line:
- click the **Point Tool**, and place a point above or below the existing line
- click the **Selection Arrow Tool**, and select the point and the line
- on the **Construct** menu, click **Perpendicular Line**.

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Constructing a Midpoint

To construct a midpoint on an existing line:
- click the **Selection Arrow Tool**, and select the line
- on the **Construct** menu, click **Midpoint**, and a point will appear on the line. That point will be fixed at the middle of the line.
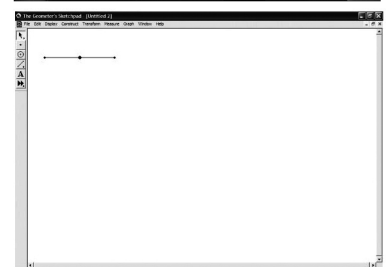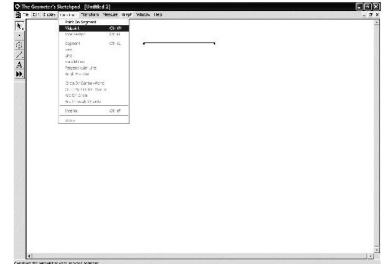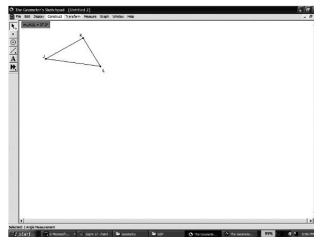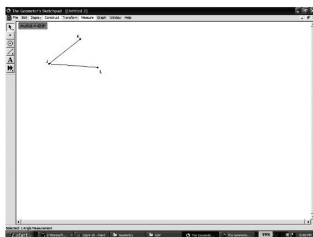
Finding Measures

For all measures, *The Geometer's Sketchpad®* will display the desired measure using the units and precision selected in **Preferences…** on the **Edit** menu.

To measure the distance between two points:
- ensure nothing is selected
- select the two points
- on the **Measure** menu, click **Distance**.

To measure the length of a line segment:
- ensure nothing is selected
- select the two points
- on the **Measure** menu, click **Length**.

To measure an angle:
- ensure nothing is selected
- select the three points that form the angle. Make sure that the second point selected is the vertex of the angle.
- on the **Measure** menu, click **Angle**.