



Geometer's Sketchpad	TI-InterActive!	Technology Math & Science	WebQuests	Technology Language Arts	Mathematica
PowerPoint	Distance Learning	Concept Mapping & Inspiration	Video Editing	Online Help	DOE Fellowship Info.

Geometer's Sketchpad

The purpose of this tutorial is to instruct teachers and students in the use of Geometer's Sketchpad, a Key Curriculum Press geometry software.

To use this tutorial you need Internet access and Geometer's Sketchpad. The tutorial was designed to use your browser to navigate through the lesson while at the same time having a Sketchpad sketch window open to complete the lesson's constructions.

To start:

1. Size your browser's window, so the desktop is showing and open Geometer's Sketchpad. Tip: Resize both windows so to allow toggling back and forth between programs.
2. Part 1: Instructs in Drawing, constructing and moving geometric objects.
3. Part 2: Includes lessons in constructing, labeling and measuring.

After completing Part 1 and Part 2, you should be able use the program to complete lessons found in workbooks included with the software.

Additional lessons can be found at:

[Math Forum](#)

[Key Curriculum Site](#)

4. Questions can be directed to [ONLINE HELP](#)

This site is being created as part of the New Jersey Department of Education's Technology Fellowship initiative.
[To learn more about this program.](#)

The NJ Department of Ed has given me time and resources to develop this Virtual Institute for teachers.
 Currently I am assigned to the [Atlantic County ETTTC](#) located at Richard Stockton College.

[Back to ACETTTC](#) ~ [Back to Fellowship Page](#) ~ [Back to Virtual Institute](#) ~ [Online Help](#) ~ [Email](#)

Getting Started With *Geometer's Sketchpad* Drawing, Constructing, and Moving Objects

~~ [Contact me for help](#) ~~

~~ [Back to Math Page](#) ~~ [Back to ETTC](#) ~~ [Back to Virtual Institute](#)

Contents

- [Using the Toolbox](#)
- [Undoing and Redoing Commands](#)
- [Using the Construct Menu](#)
- [Deleting Points and Line Segments](#)
- [The Status Box](#)
- [Selecting and Translating Points and Lines](#)
- [Selecting and Translating Objects](#)
- [Cutting, Copying, Pasting, and Deleting an Object](#)
- [For More Help with Sketchpad](#)

Using the Toolbox

Located on the left-hand side of the *Geometer's Sketchpad* worksheet, you will see a selection of tools that can be used to draw geometrical figures.



Selection Arrow: Used to select and translate an object. Click and hold mouse button to activate **Rotate** and **Dilate** tools.



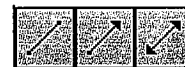
Point Tool



Circle Tool



Line Tool: Creates line segments. Click and hold mouse button to activate **Ray** and **Line** tools.




Text Tool: Creates captions or label points and lines.



Information Tool: Click on objects or menu items for information.

~~ [back to the top](#) ~~

Select the **circle tool**.  Move to an empty space on your worksheet, and click and drag outwards to create a circle.

Undoing and Redoing Commands

Go to the **Edit** menu at the top of the screen. Notice that your first option is **Undo Draw Circle**, or the last command you completed. Try this. Go back to the **Edit** menu, and select **Redo Draw Circle**.





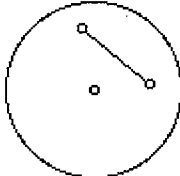
Hold down the **Shift** key and go back to the **Edit** menu again. Notice that the first option in

the menu is now **Undo All**. You can use this to revert back to your last saved copy of a worksheet.

~~ back to the top ~~

Using the Construct Menu

The **Construct** menu provides ways to create objects with geometrical properties related to those of objects you have already drawn. Using the **Construct** menu and the **toolbox**, draw another circle:

1. Using the **point tool** , create a point somewhere in a blank space in your worksheet. This will mark the **center** of your circle.
2. Using the **line tool** , draw a line segment. This will define the **radius** of your circle.
3. Activate the **selection arrow** . 'Select' your line and point simultaneously by clicking on one, and holding down the **[shift]** key while clicking on the other. Both the point and the line will appear black, indicating that they have been 'selected'. 
4. Go to the **Construct** menu. Notice that some of the items in this menu appear black, indicating that they are available, while other items appear grey, indicating that they cannot be used. Which items are available depends on what types of points, lines, or objects you have selected.
5. From the **Construct** menu, select **Circle By Center + Radius** (recall that the two objects you have selected are a **center** and a **radius**). A circle will appear on your worksheet. 


~~ back to the top ~~

Deleting Points and Line Segments

To delete a part of your drawing, simply select it and hit the **[delete]** key:

~~ back to the top ~~

The Status Box

For this next exercise, you will first need to create a triangle inscribed inside of a circle. This means that the three vertices of the triangle will be 'on' the perimeter of the circle. The **status box** helps you to be sure you position your points exactly where you want them: 

1. Create a circle using either of the methods described above.

2. Observe the **status box** in the lower left-hand corner of the worksheet. This provides information on whatever function you are performing or where your cursor is positioned.



3. Select the **line tool**, and position your cursor somewhere on the edge of your remaining circle. (Hint: You know you are positioned on the edge of the circle when the **status box** reads 'From Point on Circle...').

4. Click and drag from one edge of the circle to another to create the first line segment.



5. Move your cursor over an endpoint of the first segment, and observe that the **status box** reads "From Point ...". Create another line segment starting at this point (the cursor will 'lock' into place when it is close to a point).



6. Create a third line segment from the endpoint of the second segment to the beginning of the first, to complete your inscribed triangle.

~~ [back to the top](#) ~~

Selecting and Translating Points and Lines

The key feature of *Geometer's Sketchpad* is that it allows you to change objects that you have created, without having to erase them and draw them over again. Use the **selection arrow** to select and move points and objects.

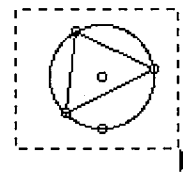


~~ [back to the top](#) ~~

Selecting and Translating Objects

A **point** is a discreet position on your worksheet. A **line** segment connects two **points** together. An **object** is a collection of points and lines.

There is more than one way to select an **object**. One way is to '[shift]-click' and select all of the object's components one at a time. Often a quicker way is to draw a **selection marquee** around the **object**. To do this, first activate the **selection arrow**. Then, click on an empty space in the worksheet, and drag to create a rectangle over the **object** you wish to select.



You will notice that all the points and line segments comprising the selected object will be highlighted.



Now, click and drag on *any* of the highlighted points or lines.

~~ [back to the top](#) ~~

Cutting, Copying, Pasting, and Deleting an Object

In much the same way that *Microsoft Word* lets you cut and paste text and *SoundEdit* lets you cut and paste sound, *Geometer's Sketchpad* lets you cut and paste objects. Once you have selected a point, line, or object, you can use the **Edit** menu to **Cut**, **Copy** or **Paste** the object. To delete an object, you select it and then hit the **[delete]** key.

~~ [back to the top](#) ~~