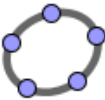


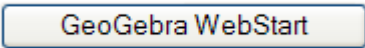
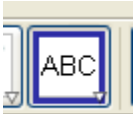

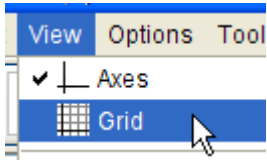
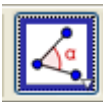
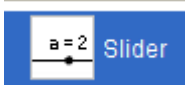
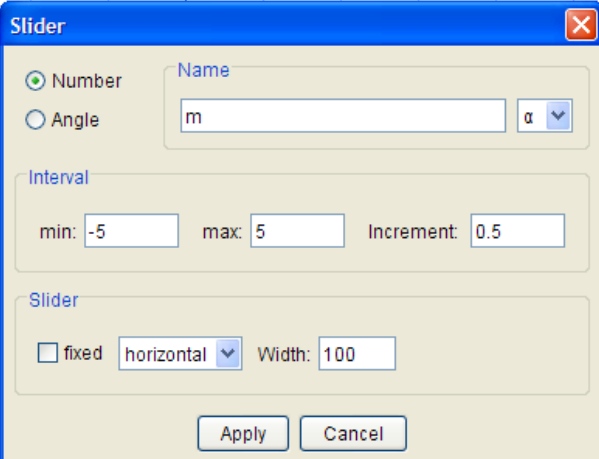
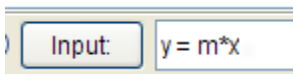
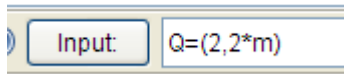


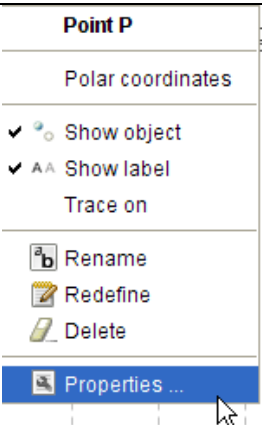
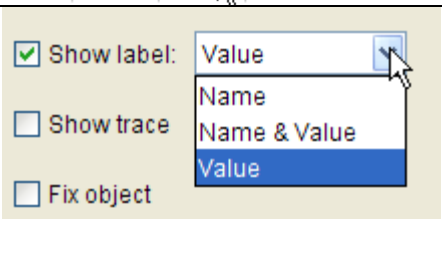
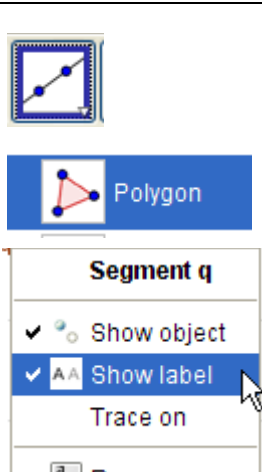
Creating a GeoGebra Dynamic Worksheet - Linear Slope

<p>What is GeoGebra?</p> <ul style="list-style-type: none"> GeoGebra is a free-open source dynamic mathematics software that links Geometry and Algebra, and can be used at practically all levels of Secondary math 	<div style="text-align: center;">  <h1 style="margin: 0;">GeoGebra</h1> <p>www.geogebra.org</p> </div>
<p>What is a Dynamic Worksheet?</p> <ul style="list-style-type: none"> Dynamic Worksheets are webpages that are created with GeoGebra which allow students to manipulate the features of the sketch using an Internet browser (like Internet Explorer or Firefox). They do not need the GeoGebra software. 	<div style="text-align: center;">   </div>
<p>Download GeoGebra</p> <ul style="list-style-type: none"> Go to www.geogebra.org Click on Start GeoGebra When the next page opens click on the GeoGebra WebStart button. Follow the installation steps to install the software. 	<p style="text-align: center;">Welcome To GeoGebra!</p> <p style="text-align: center;">GeoGebra is a free and multi-platform dynamic mathematics software for schools that joins geometry, algebra and calculus. It received several international awards including the European and German educational software awards.</p> <p style="text-align: center;">Start GeoGebra</p> <div style="text-align: center; margin-top: 20px;">  </div>
<p>Create your GeoGebra Sketch</p> <p>Example - Linear Equation Slope Exploration</p> <ul style="list-style-type: none"> Open GeoGebra Click on the Text Button Enter the text "Linear Equation Slope Exploration" in the text box. Click Apply Click on the Move Button to position the text Click on View and choose Grid to show a grid 	<div style="text-align: center;">  Text Button </div> <div style="text-align: center; margin-top: 20px;">  Move Button </div> <div style="text-align: center; margin-top: 20px;">  </div>

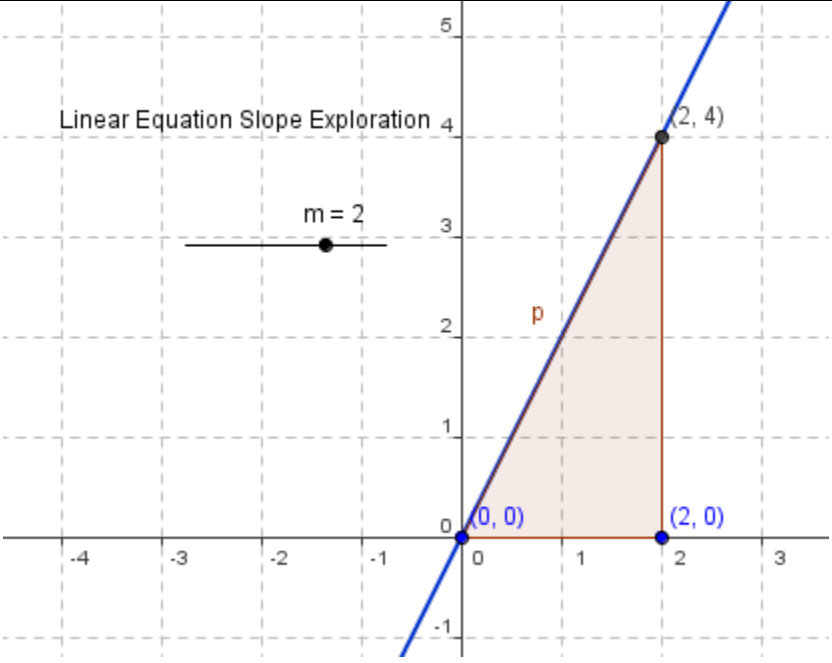
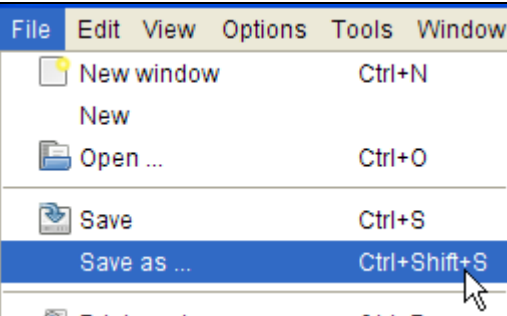
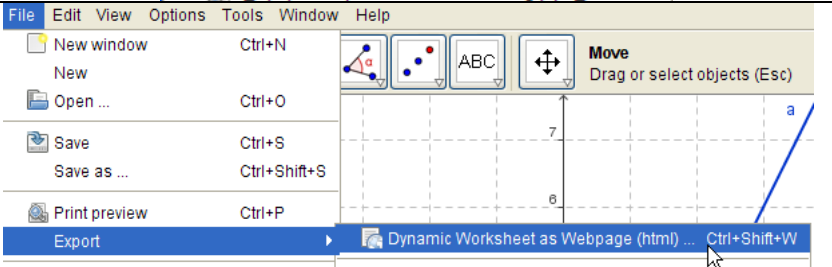
Creating a GeoGebra Dynamic Worksheet - Linear Slope

<ul style="list-style-type: none"> Click on the small down arrow on the Angle Tool to expand the toolbar Choose the Slider Tool 	<div style="text-align: center;">  Angle Tool </div> <div style="text-align: center;">  Slider Tool </div>
<p>Click on to the grid and the box at right will appear.</p> <ul style="list-style-type: none"> Change the name from a to m. Change the increment from 0.1 to 0.5 Click Apply <p>A small horizontal line will appear with the label $m = 1$. You can position this using the Move Tool.</p>	
<ul style="list-style-type: none"> In the Input box at the bottom of the screen type in $y = m \cdot x$. Click Input and a line through the origin will appear. Click on the Move Tool and then move the point m on the slider. This should change the slope of the line. 	
<ul style="list-style-type: none"> Right-click on the line. From the menu that appears, choose Properties From the Properties Menu Dialog Box, change the color and thickness of the line (optional) 	<div style="text-align: center;"> <p>Line a: $y = m x$</p> <hr/> <p>Equation $a x + b y = c$</p> <p>Parametric form</p> <hr/> <p><input checked="" type="checkbox"/> Show object</p> <p><input checked="" type="checkbox"/> Show label</p> <p>Trace on</p> <hr/> <p> Rename</p> <p> Redefine</p> <p> Delete</p> <hr/> <p> Properties ...</p> </div>
<p>In the Input Box, enter the following to plot points on the graph:</p> <ul style="list-style-type: none"> $O = (0, 0)$ $P = (2, 0)$ $Q = (2, 2 \cdot m)$ 	

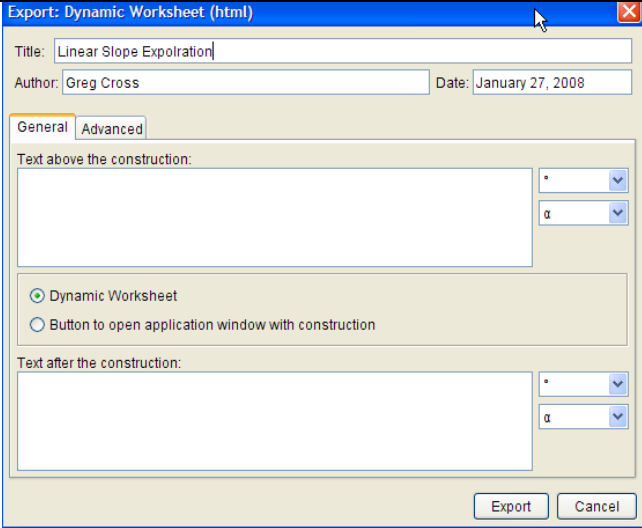
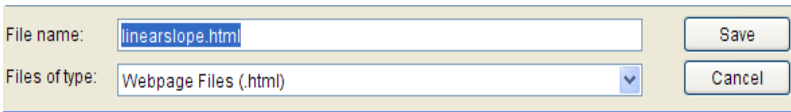
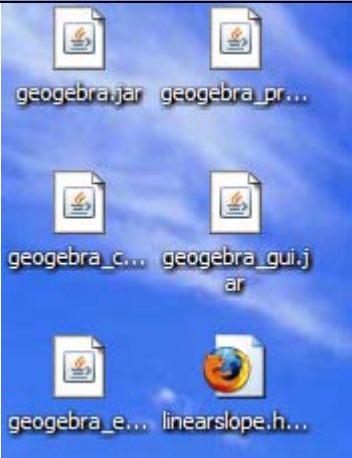
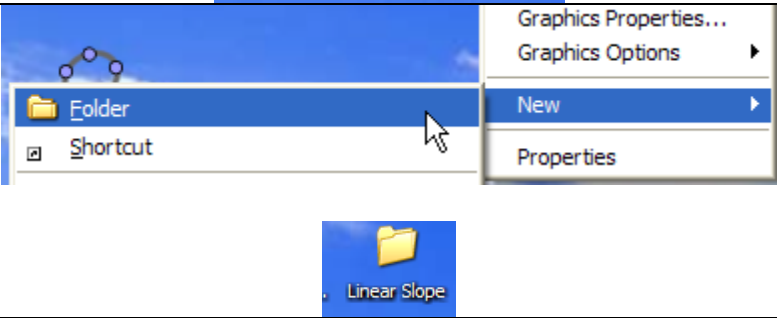
Creating a GeoGebra Dynamic Worksheet - Linear Slope

<ul style="list-style-type: none"> • Right-click on the letter P (the label for point P). • From the menu choose Properties. 	 <p>Point P</p> <p>Polar coordinates</p> <p><input checked="" type="checkbox"/> Show object</p> <p><input checked="" type="checkbox"/> Show label</p> <p>Trace on</p> <p> Rename</p> <p> Redefine</p> <p> Delete</p> <p> Properties ...</p>
<ul style="list-style-type: none"> • From the Properties Dialog box, click on the Show Label arrow. • Select Value. • This will show the ordered pair next to the point. • Repeat this for the other points O and Q. 	 <p><input checked="" type="checkbox"/> Show label: Value</p> <p><input type="checkbox"/> Show trace</p> <p><input type="checkbox"/> Fix object</p> <p>Value</p> <p>Name</p> <p>Name & Value</p> <p>Value</p>
<ul style="list-style-type: none"> • To create a slope triangle click on the small down arrow on the "Line through two points" button. • Select the Polygon from the list of tools • Click on each point O, P, Q and then back to the starting point to create the slope triangle. • Right-click on the segment letters that appear and from the menu de-select Show Label. 	 <p></p> <p> Polygon</p> <p>Segment q</p> <p><input checked="" type="checkbox"/> Show object</p> <p><input checked="" type="checkbox"/> Show label</p> <p>Trace on</p> <p></p>

Creating a GeoGebra Dynamic Worksheet - Linear Slope

<p>Your completed GeoGebra Sketch.</p> <p>With the Move Tool selected, click on the m point on the slider and the line will move.</p>	 <p style="text-align: center;">Linear Equation Slope Exploration</p>
<p>Save the completed sketch as a GeoGebra (.ggb) file.</p>	
<p>Export the sketch as a Dynamic Worksheet (.html file).</p>	

Creating a GeoGebra Dynamic Worksheet - Linear Slope

<p>When you export your sketch, the dialog box at left will appear. Fill in the Title, Author, and any text above or below the constructed sketch.</p> <p>When you are done, click the Export button.</p>	
<p>Name the file and make sure to remember the location on your computer's hard drive where you save!</p>	
<p>The program will create the web page (.html file) along with 5 other files. All of these file must be saved in order for the Dynamic Worksheet to function.</p>	
<p>Right-click on the desktop and create a folder titled "Linear Slope". Drag the 6 files into the folder and the original GeoGebra .ggb file.</p>	
<p>Double-click on the linearslope.html file. It will open in a web browser and you will be able to manipulate the sketch within the browser. If you put this on your website be sure the folder with all 7 files are in the web folder.</p>	