
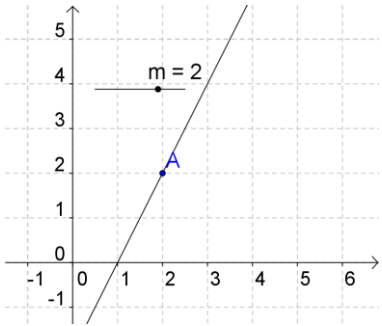



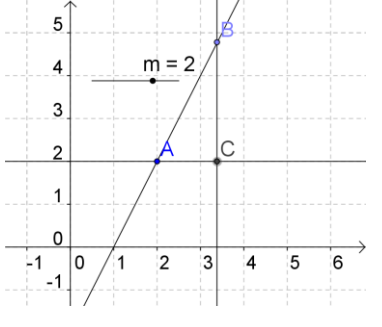

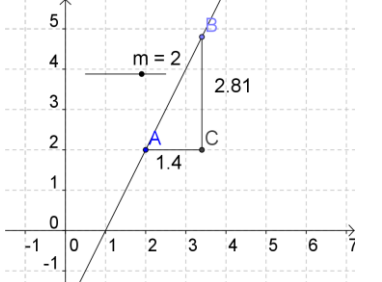

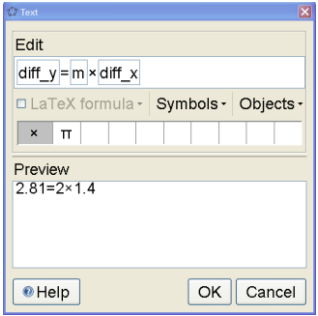


MEI How to Guides for GeoGebra

How to generate a dynamic line in the form $y - y_1 = m(x - x_1)$

<p>Adding a point (x_1, y_1), a slider, m, for the gradient and the line</p> <ol style="list-style-type: none"> 1 Add a New Point, A, (2nd menu).  2 In the input bar type $x_1=x(A)$ and press enter. 3 In the input bar type $y_1=y(A)$ and press enter. 4 Add a slider (11th menu) and name it m. 5 In the input bar type $y-y_1=m*(x-x_1)$ and press enter. 	
<p>Adding a general point and creating the third point in a gradient triangle</p> <ol style="list-style-type: none"> 6 Add a New Point, B, (2nd menu) on the line (the cursor should change as you hover over the line).  7 Use Perpendicular Line (4th menu) to construct perpendiculars to the y-axis through A and the x-axis through B.  8 Use Intersect Two Objects (2nd menu) to find the intersection of the perpendicular lines, C.  	
<p>Creating the gradient triangle</p> <ol style="list-style-type: none"> 9 Hide the perpendicular lines: click on the blue circles next to the lines in the Algebra pane. 10 Use Segment to add segments AC and BC.  11 Select each of the segments in turn and use the Graphics Style Bar to change the colour and display the value. 	
<p>Adding the dynamic text (computer software only)</p> <ol style="list-style-type: none"> 12 Rename the segments as them as diff_x and diff_y. This can be done by selecting in the Algebra view and typing the new name. 13 Use Insert Text (10th menu) to add a text-box. Enter $\text{diff}_y=m*\text{diff}_x$. diff_x, diff_y and m should be selected from Objects and x can be found in Symbols.  14 Use Insert Text (10th menu) to add a text-box. Enter $y-y_1=m(x-x_1)$. x_1, y_1 and m should be selected from Objects. Enable the LaTeX formula. 	

View on GeoGebraTube: www.geogebraTube.org/material/show/id/87023