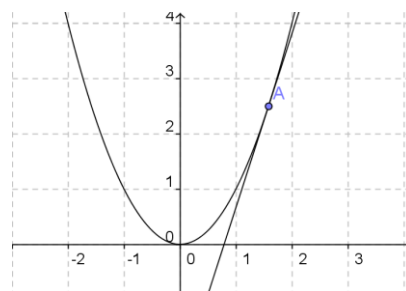


MEI How to Guides for GeoGebra

How to explore the gradient on a curve

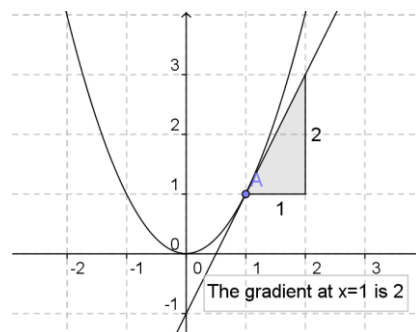
Adding the function and a point and the tangent

- 1 In the input bar type $f(x)=x^2$ and press enter.
- 2 Add a **New Point**, A, (2nd menu) on the curve (the cursor should change as you hover over the line).
- 3 Add a **Tangent** (4th menu) to the curve at the point A.



Measuring the slope and adding the dynamic text

- 4 Measure the **Slope** (8th menu) of the tangent.
- 5 In the input bar type $x_1=x(A)$ and press enter.
- 6 Use **Insert Text** (10th menu) to add a text-box. Enter **The gradient at $x=x_1$ is m** and x_1 and m should be selected from Objects.
- 7 Move the point A to (0,0). Right-click A and select Object Properties. On the Algebra tab set the Increment to 1. The point A can now be moved with the left/right cursor keys.



Recording the values in a spreadsheet

- 8 Move the point A to (-4,16).
- 9 Enable the Spreadsheet (View > Spreadsheet)
- 10 Right-click x_1 and select Record to Spreadsheet and then press Close. Right-click m and select Record to Spreadsheet and then press Close.
- 11 Select A and use the right cursor key to move the point

	x_1	m
1	x_1	m
2	-3	-6
3	-2	-4
4	-1	-2
5	0	0
6	1	2
7	2	4
8	3	6
9		

View on GeoGebraTube: <http://tube.geogebra.org/material/show/id/223041>