MEI *How to* Guides for GeoGebra

Vector equation of a line in 3D

Creating the line based on points A and B

1 Enable 3D: **View > 3D Graphics**

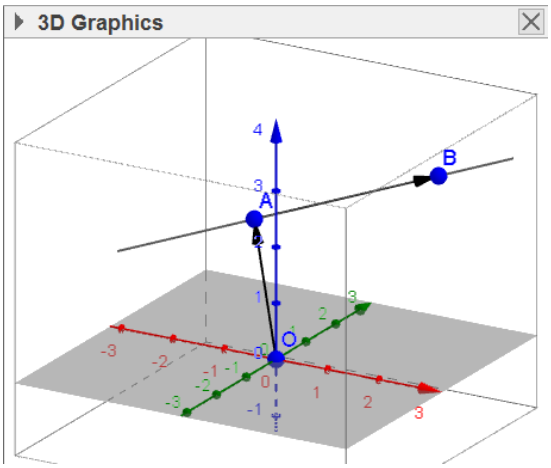
2 In the Input bar enter: **O=(0,0,0)**

3 In the Input bar enter: **A=(-1,1,2)**

4 In the Input bar enter: **B=(2,2,3)**

5 Use the **Vector** tool (3rd menu) to create the vectors **OA** and **AB.** Rename these vectors **OA** and **AB**.

6 Use the **Line** tool (3rd menu) to create the line through **A** and **B**.



Creating a dynamic point P

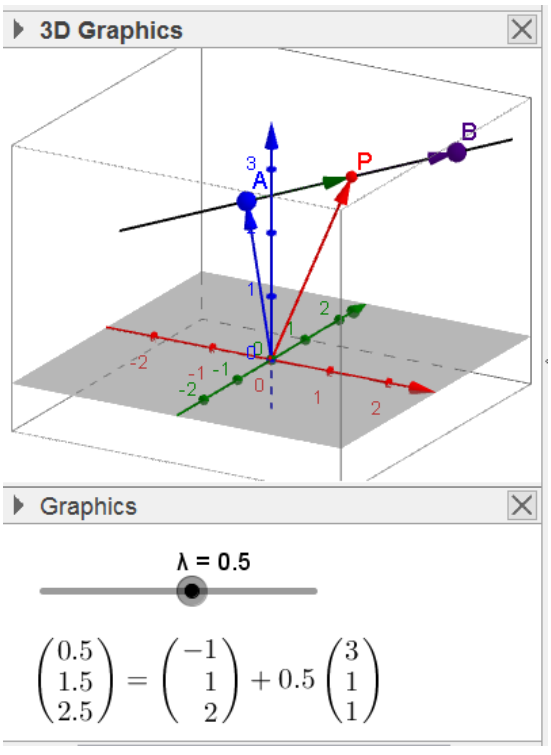
7 In the Graphics View create a slider and name it **λ**

8 In the Input bar enter: **P=A+λ*AB**

9 Use the **Vector** tool (3rd menu) to create the vectors **OP** and **AP.** Rename these vectors as **OP** and **AP.**

10 In the Graphics view add a **Text** box (10th menu). Switch the LateX formula on and enter **OP** = **OA** + **λ AB**. **OP**, **OA**, **λ** and **AB** should be selected from the objects menu.

11 Hide the axes and the point O in the Graphics view. The position of the Algebra, Graphics and 3D Graphics panels can be adjusted by dragging the panel title bars.



View on GeoGebraTube: www.geogebra.org/m/2593371