Università Ca' Foscari di Venezia - Dipartimento di Economia - A.A.2016-2017

Mathematics (Curriculum Economics, Markets and Finance)

Tip: How to input compound functions in Geogebra

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In order to input the code for piecewise defined functions in Geogebra, the IF construction must be used.

The following is the main syntax:

```
If[condition, then, else]
```

The `else` part may be another IF construction. Some examples will make you understand how this code can effectively be used.

To input the following function

$$f(x)=\begin{cases} x^2, & \text{if } x<-1; \\ x+2, & \text{if } -1\le x\le 1; \\ -x+2, & \text{if } x>1; \end{cases},$$

the code is:

```
If[x < -1, x^2, If[-1 <= x < =1, x + 2, -x + 2]]
```

To input the following function

$$f(x)=\begin{cases} x^2, & \text{if } x<-1; \\ 3, & \text{if } x=-1; \\ x+1, & \text{if } x>-1; \end{cases},$$

the code is:

```
f(x) = If[x < -1, x^2, If[x == -1,3, x + 1]]
```

Observe, in this last code, that the mathematical condition $x=-1$ must be written in Geogebra as `x == -1`

Try to experiment with Geogebra!