

Nagy's Geogebra Crib Sheet


Handy Shortcuts:

- Full List at: https://www.geogebra.org/manual/en/Keyboard_Shortcuts
- Show/Hide **labels**: Ctrl+Shift+G (Mac: Cmd+Shift+G)
- Show/Hide **Objects**: Ctrl+G (Mac: Cmd+G)
- **Degrees**: Alt+O

Hint: inserting the degrees symbol just multiplies by the constant $\frac{\pi}{180}$ since all calculations in Geogebra are in radians.

- π can be input as "**pi**" or Alt+P
- ∞ (**infinity**) is Alt+U
- **Square Root** $\sqrt{\quad}$ is Alt+R or use the command sqrt() eg. sqrt(x^3) produces $\sqrt{x^3}$
- **Greek Characters** can be entered as Alt+ ABGDSLMTW to enter $\alpha\beta\gamma\delta\sigma\lambda\mu\theta\omega$ respectively or use the α menu on the RHS. Mac is Ctrl not Alt. Upper case characters with +Shift.
- Alt+E creates the **exponential constant** e, which can also be entered as exp(x) for e^x .
- **Absolute Value** functions can be entered as abs() eg. abs(x) is $|x|$.

Selecting Multiple Objects, Resizing, Scaling Axes, Zooming

To select multiple objects, right-click and drag over objects. Right click again to choose what to do with them. To drag object(s) left-click and drag. Left-click and drag without selection will move graphics window. Scaling axes can be achieved by shift-left-click and dragging axis or with Move Graphics Tool, left-click and drag axis once double-headed arrow appears. Scroll-up and down to zoom in and out. 

Menu Options

- Options -> Labelling->No New Objects (Sets default to **not labelling new objects**)
- Options->Save Settings (Saves **default settings** for future Geogebra sessions)

Piecemeal Functions or restricted domains

Restricting the domain:

- $f(x)=\text{Function}[\text{expression, start x, end x}]$ eg. $f(x)=\text{Function}[x^2,1,3]$ defines $f(x)=x^2$ for $[1,3]$
Hint: ∞ can be input as Alt+U or is in the dropdown α menu on the RHS.

More complicated Piecemeal Functions:

- $f(x)=\text{if}(\text{condition1,then expression1, else expression2})$. This can be nested as in the following example to create more complicated functions:
eg. $f(x)=\text{if}(x<=0,-3,\text{if}(0<x<=2,-3+x^2,(x/2)-1))$ defines the function:
$$f(x) = \begin{cases} -3 & : x \leq 0 \\ -3+x^2 & : 0 < x \leq 2 \\ \frac{x}{2}-1 & : \text{otherwise} \end{cases}$$

Syntax in Input Bar:



on right hand side of input bar gives **help** on command syntax

- * **multiplication**
- / **divided by**
- ^ raised to the **power**
- A=(1,2) Sets point A at **coordinates** (1,2)
- x(A) specifies **x-coordinate** of point A (in this case 1)
- y(A) specifies **y-coordinate** of point A (in this case 2)
- Curve[x-function, y-function,parameter variable, start p,end p] defines a **parametric curve**,
Eg. Curve[2at,at^2,t,-5,5] will draw parabola of focal length 'a' and parameter t from -5 to 5.
Hint: type "Curve[" , click on syntax you want and tab between fields.