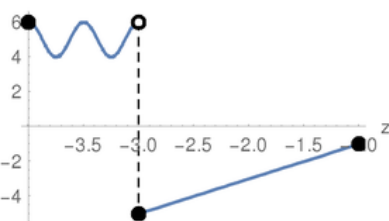


Piecewise Functions

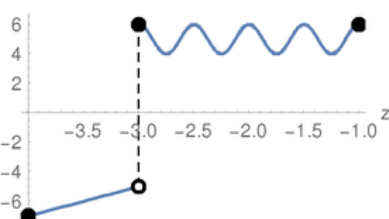
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the z-axis

$$\begin{cases} \cos(4\pi z) + 5 & -4 \leq z < -3 \\ 2z + 1 & -3 \leq z \leq -1 \end{cases}$$



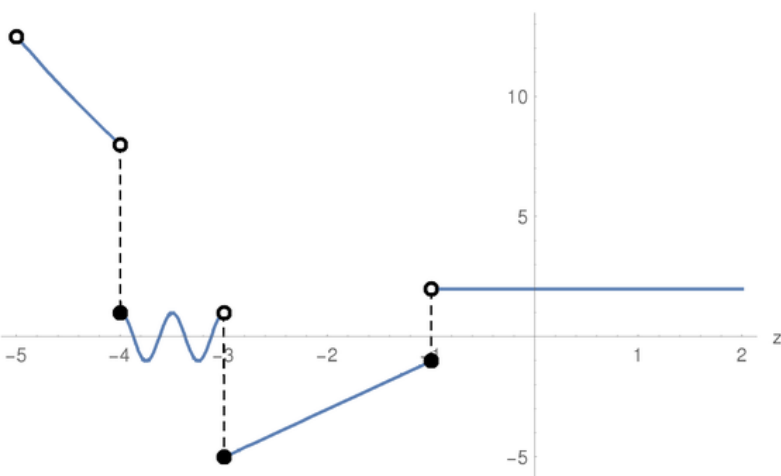
where two functions are pieced together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} 2z + 1 & -4 \leq z < -3 \\ \cos(4\pi z) + 5 & -3 \leq z \leq -1 \end{cases}$$



More and more complicated functions could be pieced together:

$$\begin{cases} \frac{z^2}{2} & -5 < z < -4 \\ \cos(4\pi z) & -4 \leq z < -3 \\ 2z + 1 & -3 \leq z \leq -1 \\ 2 & z > -1 \end{cases}$$



Solid disk corresponds to inclusion of the point or any of $\leq \geq$ operators



Hollow disk corresponds to the exclusion or any of the $< >$ operators

