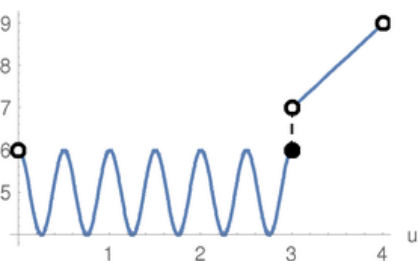


Piecewise Functions

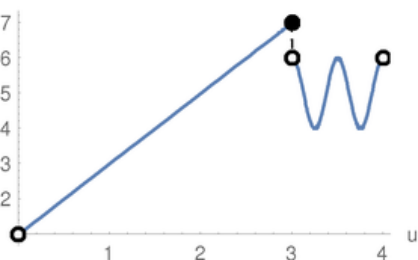
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the u-axis

$$\begin{cases} \cos(4\pi u) + 5 & 0 < u \leq 3 \\ 2u + 1 & 3 < u < 4 \end{cases}$$



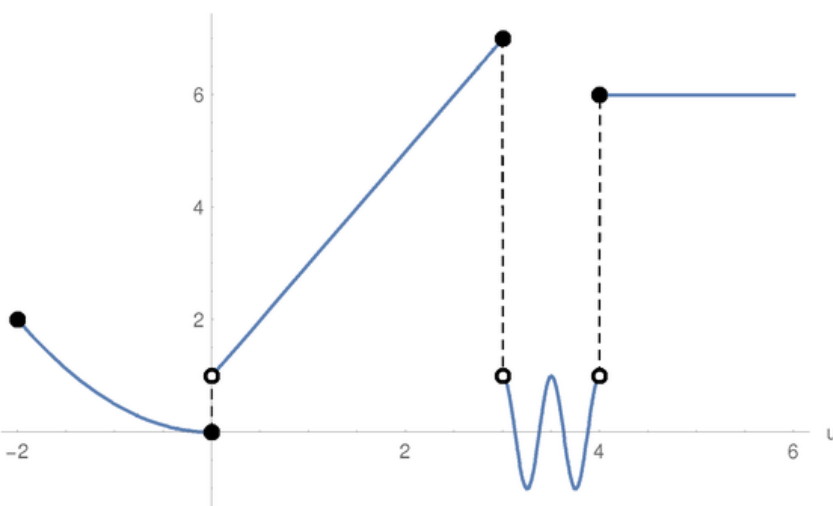
where two functions are stitched together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} 2u + 1 & 0 < u \leq 3 \\ \cos(4\pi u) + 5 & 3 < u < 4 \end{cases}$$



More and more complicated functions could be stitched together:

$$\begin{cases} \frac{u^2}{2} & -2 \leq u \leq 0 \\ 2u + 1 & 0 < u \leq 3 \\ \cos(4\pi u) & 3 < u < 4 \\ 6 & u \geq 4 \end{cases}$$



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



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

