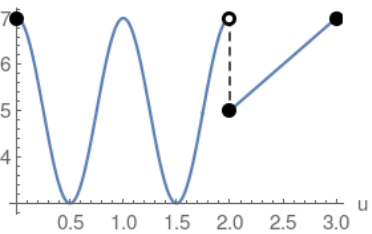
Piecewise Functions

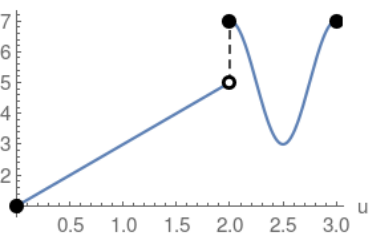
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the u-axis

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



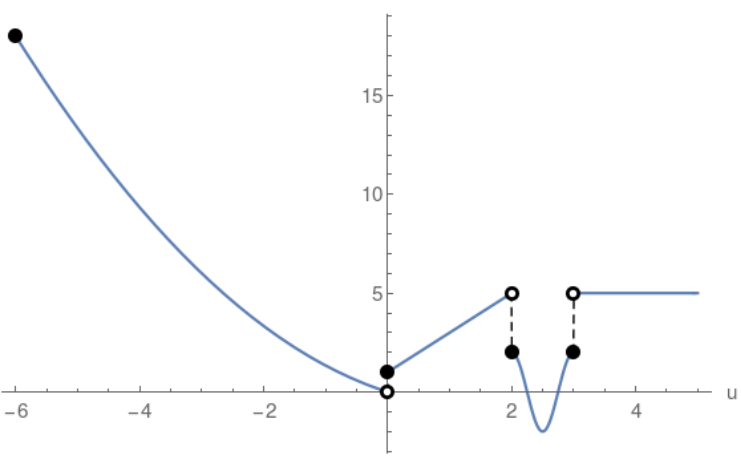
where two functions are stitched together, and for that matter could be pieced differently i.e. swapped:

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



More and more complicated functions could be stitched together:

$$\begin{cases} \frac{u^2}{3} - u & -6 \le u < 0 \\ 2u + 1 & 0 \le u < 2 \\ 2\cos(2\pi u) & 2 \le u \le 3 \\ 5 & u > 3 \end{cases}$$



Solid disk refers to inclusion of the point or any of $\leqslant$ $\geqslant$ $=$ operators

●

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

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