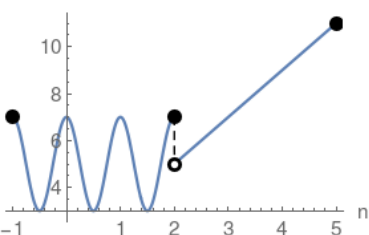


# Piecewise Functions

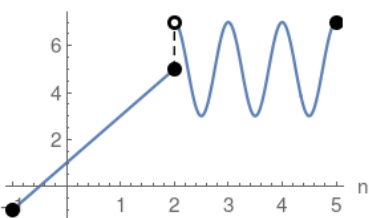
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the n-axis

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



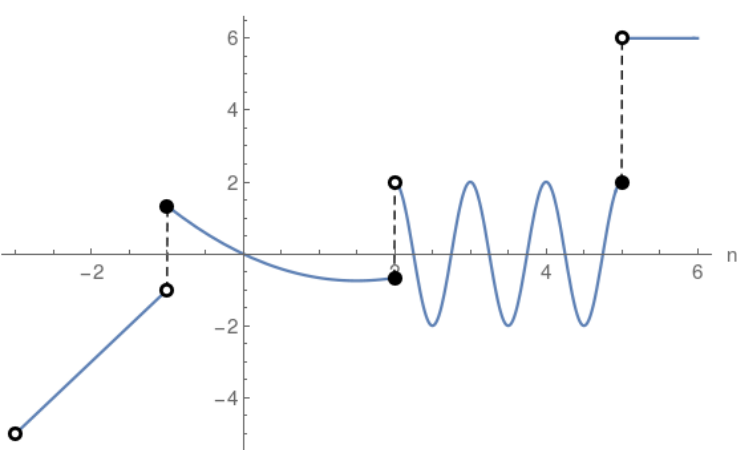
where two functions are glued together, and for that matter could be pieced differently i.e. swapped:

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



More and more complicated functions could be glued together:

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



**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

