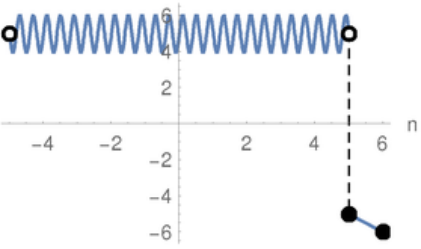
Piecewise Functions

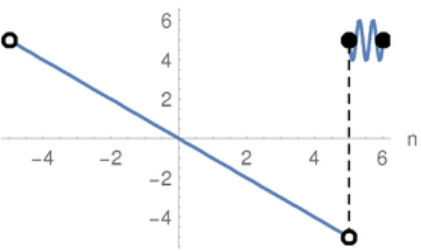
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the n-axis

$$\begin{cases} \sin(5\pi n) + 5 & -5 < n < 5 \\ -n & 5 \le n \le 6 \end{cases}$$



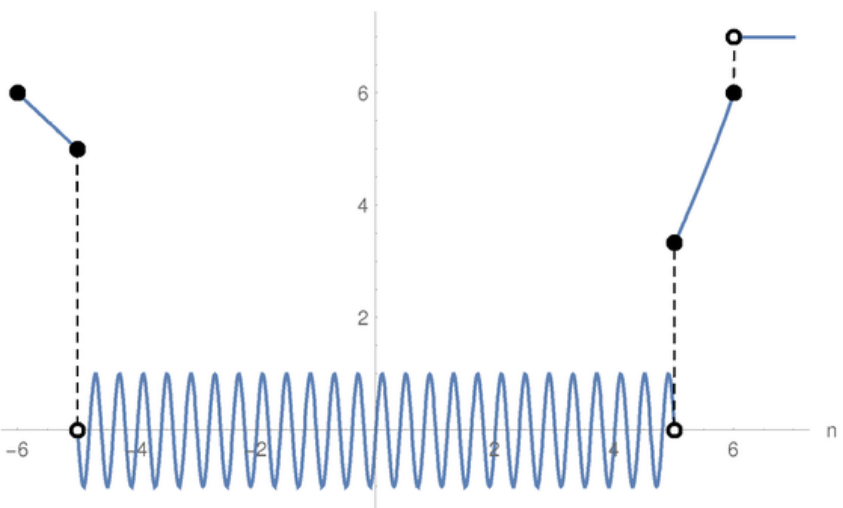
where two functions are pieced together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} -n & -5 < n < 5 \\ \sin(5\pi n) + 5 & 5 \le n \le 6 \end{cases}$$



More and more complicated functions could be pieced together:

$$\begin{cases} -n & -6 \le n \le -5 \\ \sin(5\pi n) & -5 < n < 5 \\ \frac{n^2}{3} - n & 5 \le n \le 6 \\ 7 & n > 6 \end{cases}$$



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

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

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