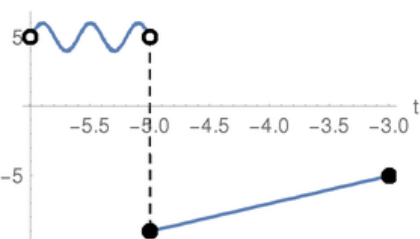


# Piecewise Functions

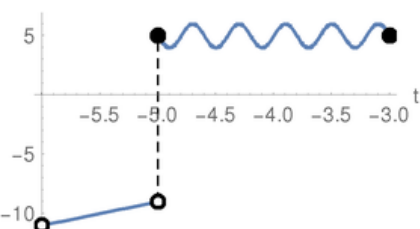
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the t-axis

$$\begin{cases} \sin(5\pi t) + 5 & -6 < t < -5 \\ 2t + 1 & -5 \leq t \leq -3 \end{cases}$$



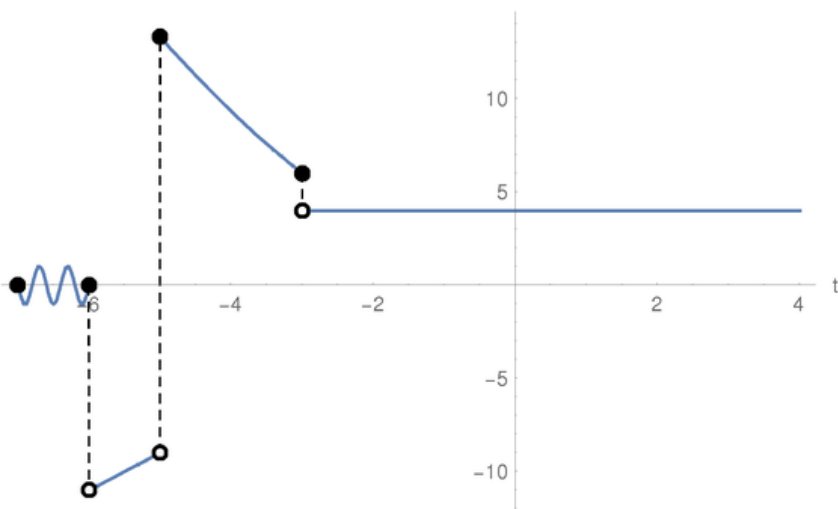
where two functions are placed together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} 2t + 1 & -6 < t < -5 \\ \sin(5\pi t) + 5 & -5 \leq t \leq -3 \end{cases}$$



More and more complicated functions could be placed together:

$$\begin{cases} \sin(5\pi t) & -7 \leq t \leq -6 \\ 2t + 1 & -6 < t < -5 \\ \frac{t^2}{3} - t & -5 \leq t \leq -3 \\ 4 & t > -3 \end{cases}$$



**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

