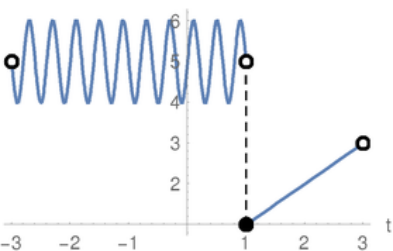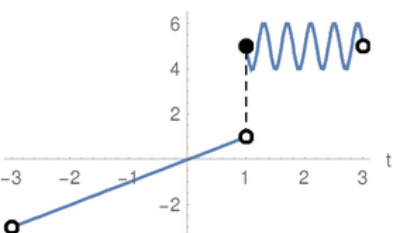# Piecewise Functions

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

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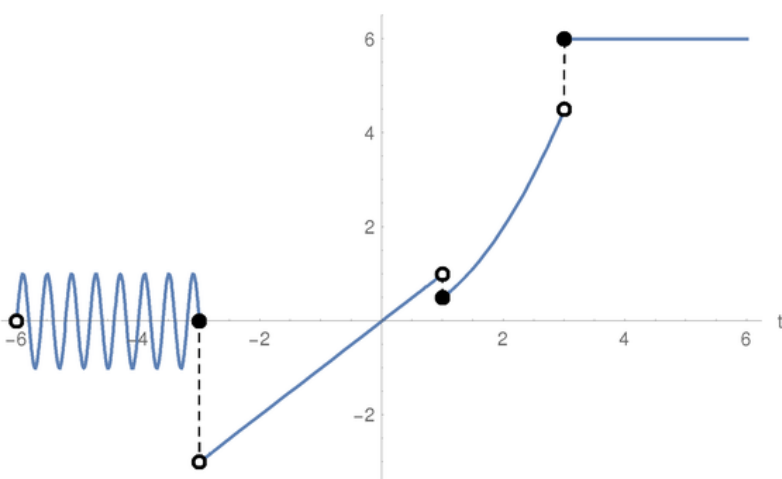

where two functions are glued together, and for that matter
could be pieced differently i.e. swapped:

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

More and more complicated functions could be glued together:

$$\begin{cases} \sin(5\pi t) & -6 < t \le -3 \\ t & -3 < t < 1 \\ \frac{t^2}{2} & 1 \le t < 3 \\ 6 & t \ge 3 \end{cases}$$

Solid disk corresponds to inclusion of the point or any of $\le$ $\ge$ = operators
●

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