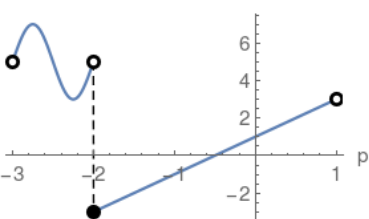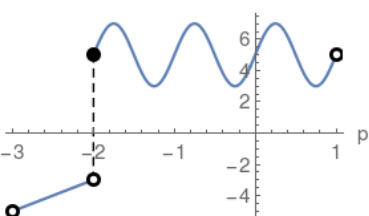# Piecewise Functions

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

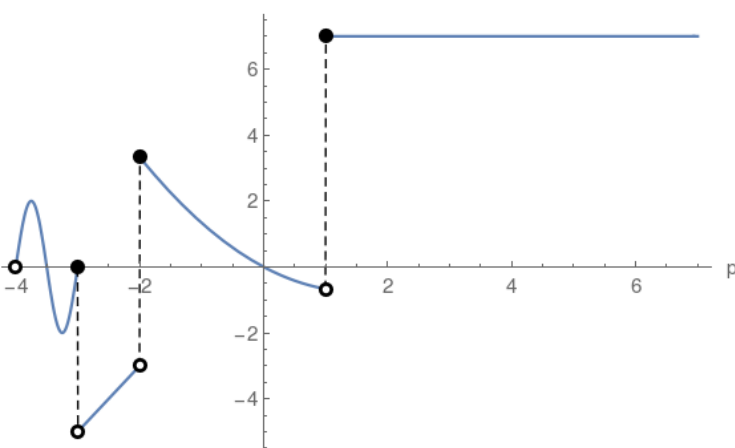$$\begin{cases} 2\sin(2\pi p) + 5 & -3 < p < -2 \\ 2p + 1 & -2 \leq p < 1 \end{cases}$$

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

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

More and more complicated functions could be glued together:

$$\begin{cases} 2\sin(2\pi p) & -4 < p \leq -3 \\ 2p + 1 & -3 < p < -2 \\ \dfrac{p^2}{3} - p & -2 \leq p < 1 \\ 7 & p \geq 1 \end{cases}$$

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
○