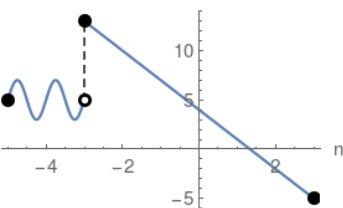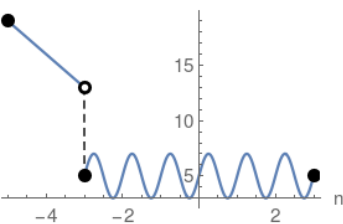# Piecewise Functions

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

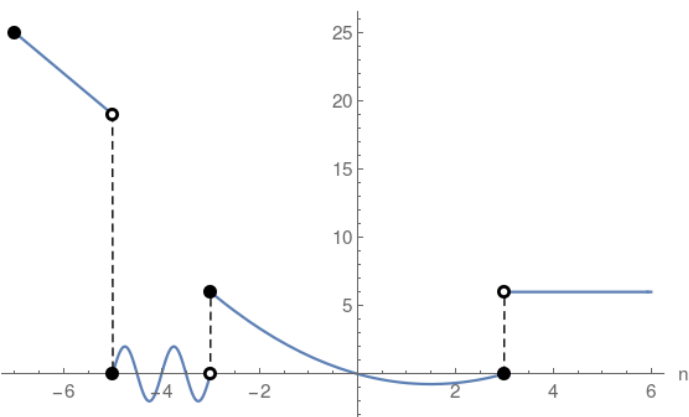$$\begin{cases} 2\sin(2\pi n) + 5 & -5 \le n < -3 \\ 4 - 3n & -3 \le n \le 3 \end{cases}$$

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

$$\begin{cases} 4 - 3n & -5 \le n < -3 \\ 2\sin(2\pi n) + 5 & -3 \le n \le 3 \end{cases}$$

More and more complicated functions could be glued together:

$$\begin{cases} 4 - 3n & -7 \le n < -5 \\ 2\sin(2\pi n) & -5 \le n < -3 \\ \dfrac{n^2}{3} - n & -3 \le n \le 3 \\ 6 & n > 3 \end{cases}$$

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
○