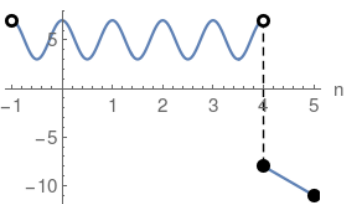# Piecewise Functions
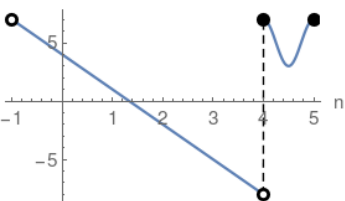
 To define piecewise means that the function values and graphs
are defined over a particular and generally limited
section of the n–axis

$$\left[\begin{array}{ll} 2\cos(2\pi n) + 5 & -1 < n < 4 \\ 4 - 3n & 4 \le n \le 5 \end{array} \right.$$
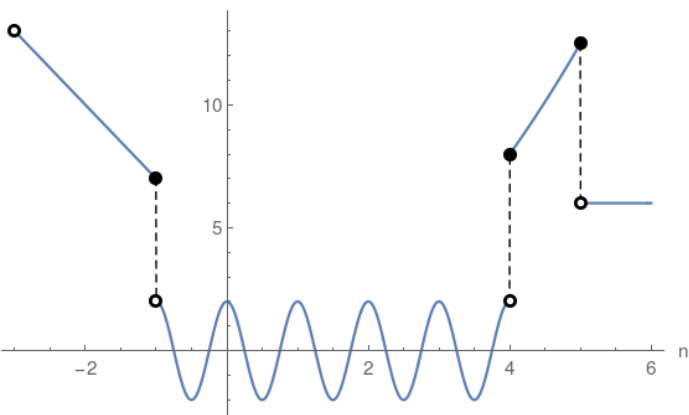

where two functions are stitched together, and for that matter
could be pieced differently i.e. swapped:

$$\left[\begin{array}{ll} 4 - 3n & -1 < n < 4 \\ 2\cos(2\pi n) + 5 & 4 \le n \le 5 \end{array} \right.$$

More and more complicated functions could be stitched together:

$$\left[\begin{array}{ll} 4 - 3n & -3 < n \le -1 \\ 2\cos(2\pi n) & -1 < n < 4 \\ \dfrac{n^2}{2} & 4 \le n \le 5 \\ 6 & n > 5 \end{array} \right.$$

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
○