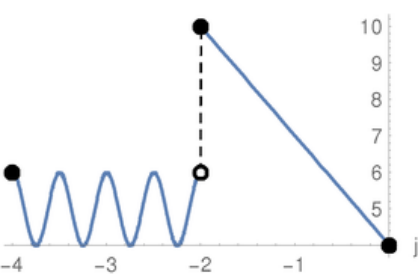# Piecewise Functions
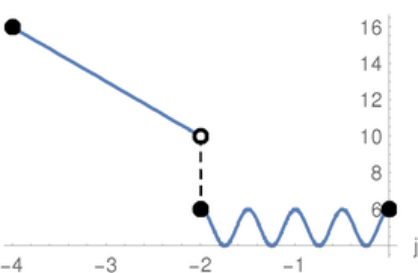
 To define piecewise means that the function values and graphs
are defined over a particular and generally limited
section of the j-axis

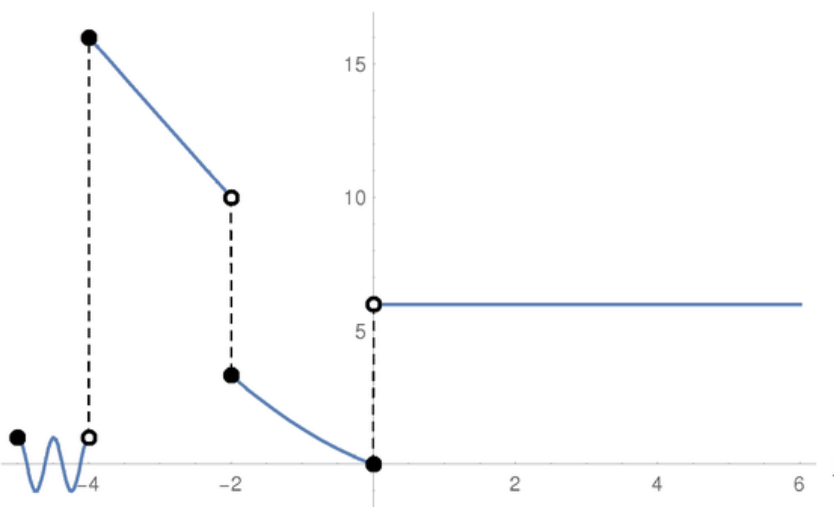$$\begin{cases} \cos(4\pi j) + 5 & -4 \le j < -2 \\ 4 - 3j & -2 \le j \le 0 \end{cases}$$



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

$$\begin{cases} 4 - 3j & -4 \le j < -2 \\ \cos(4\pi j) + 5 & -2 \le j \le 0 \end{cases}$$



More and more complicated functions could be glued together:

$$\begin{cases} \cos(4\pi j) & -5 \le j < -4 \\ 4 - 3j & -4 \le j < -2 \\ \dfrac{j^2}{3} - j & -2 \le j \le 0 \\ 6 & j > 0 \end{cases}$$



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

●

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

○