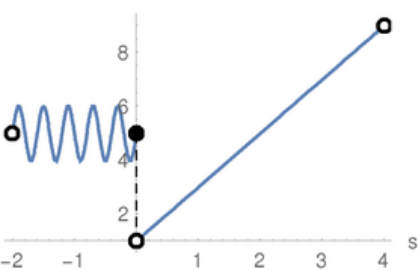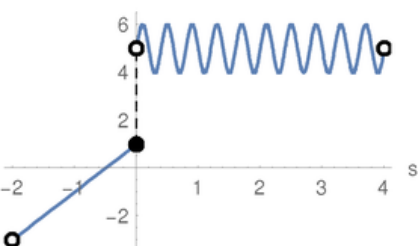# Piecewise Functions

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

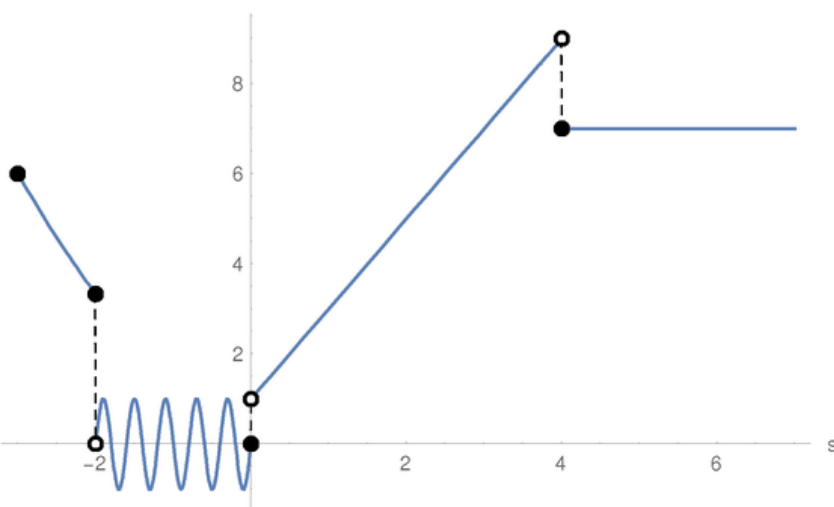$$\begin{cases} \sin(5\pi s) + 5 & -2 < s \le 0 \\ 2s + 1 & 0 < s < 4 \end{cases}$$

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

$$\begin{cases} 2s + 1 & -2 < s \le 0 \\ \sin(5\pi s) + 5 & 0 < s < 4 \end{cases}$$

More and more complicated functions could be pieced together:

$$\begin{cases} \frac{s^2}{3} - s & -3 \le s \le -2 \\ \sin(5\pi s) & -2 < s \le 0 \\ 2s + 1 & 0 < s < 4 \\ 7 & s \ge 4 \end{cases}$$

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

○