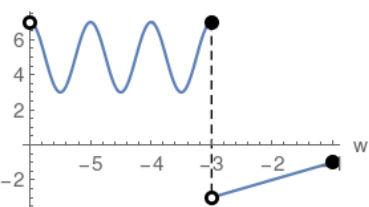# Piecewise Functions
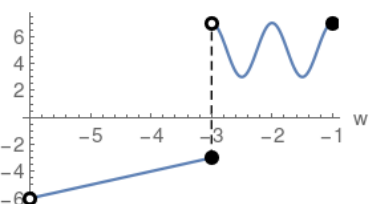
 To define piecewise means that the function values and graphs
are defined over a particular and generally limited
section of the w-axis

$$\left[\begin{array}{ll} 2\cos(2\,\pi\,w) + 5 & -6 < w \le -3 \\ w & -3 < w \le -1 \end{array} \right.$$
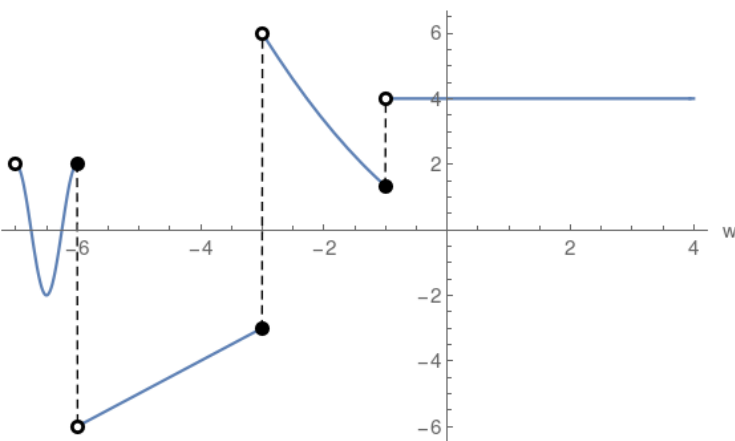

where two functions are placed together, and for that matter
could be pieced differently i.e. swapped:

$$\left[\begin{array}{ll} w & -6 < w \le -3 \\ 2\cos(2\,\pi\,w) + 5 & -3 < w \le -1 \end{array} \right.$$

More and more complicated functions could be placed together:

$$\left[\begin{array}{ll} 2\cos(2\,\pi\,w) & -7 < w \le -6 \\ w & -6 < w \le -3 \\ \dfrac{w^2}{3} - w & -3 < w \le -1 \\ 4 & w > -1 \end{array} \right.$$

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
○