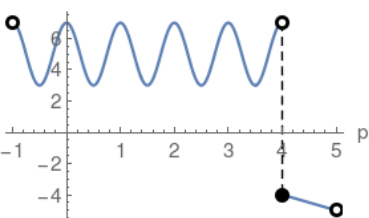# Piecewise Functions
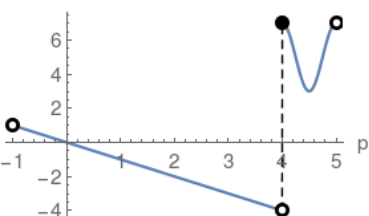
 To define piecewise means that the function values and graphs
are defined over a particular and generally limited
section of the p-axis

$$\begin{bmatrix} 2\cos(2\pi p) + 5 & -1 < p < 4 \\ -p & 4 \le p < 5 \end{bmatrix}$$
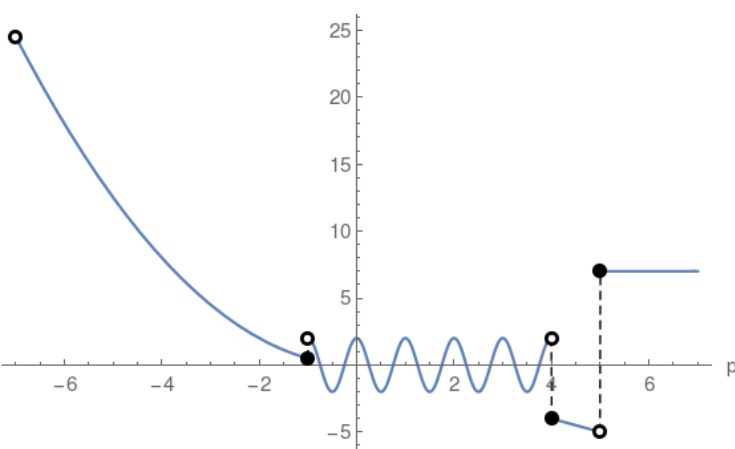

where two functions are glued together, and for that matter
could be pieced differently i.e. swapped:

$$\begin{bmatrix} -p & -1 < p < 4 \\ 2\cos(2\pi p) + 5 & 4 \le p < 5 \end{bmatrix}$$

More and more complicated functions could be glued together:

$$\begin{bmatrix} \frac{p^2}{2} & -7 < p \le -1 \\ 2\cos(2\pi p) & -1 < p < 4 \\ -p & 4 \le p < 5 \\ 7 & p \ge 5 \end{bmatrix}$$

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
○