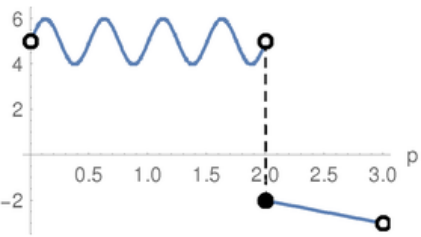
Piecewise Functions

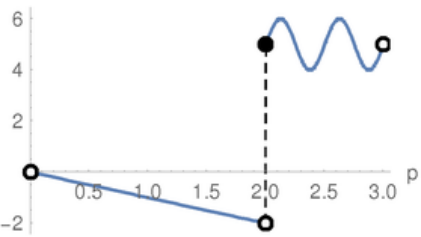
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the p-axis

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



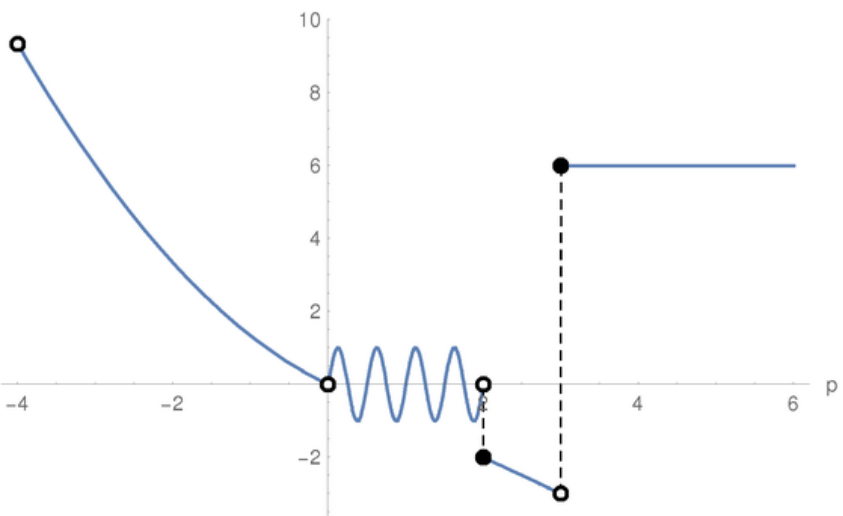
where two functions are stitched together, and for that matter could be pieced differently i.e. swapped:

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



More and more complicated functions could be stitched together:

$$\begin{cases} \frac{p^2}{3} - p & -4 < p \le 0 \\ \sin(4\pi p) & 0 < p < 2 \\ -p & 2 \le p < 3 \\ 6 & p \ge 3 \end{cases}$$



Solid disk refers to inclusion of the point or any of $\leqslant$ $\geqslant$ $=$ operators

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

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