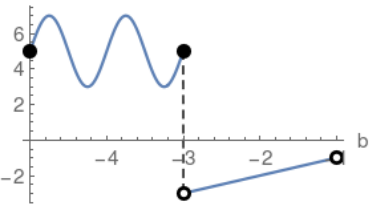
Piecewise Functions

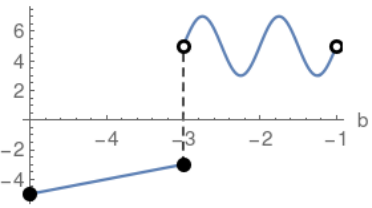
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the b-axis

$$\begin{cases} 2\sin(2\pi b) + 5 & -5 \le b \le -3 \\ b & -3 < b < -1 \end{cases}$$



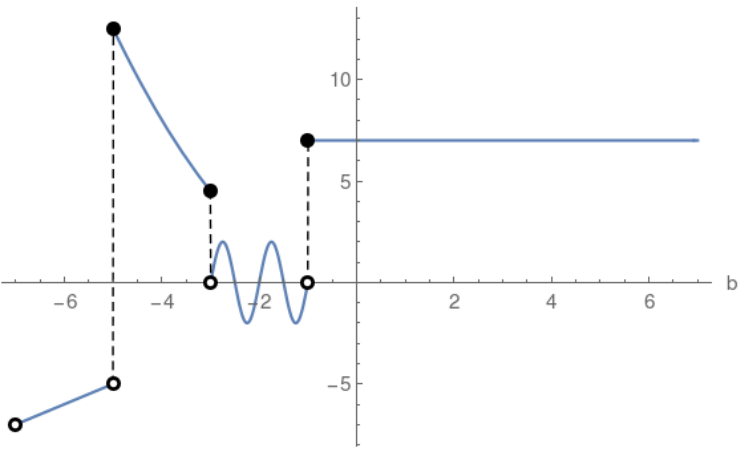
where two functions are juxtaposed together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} b & -5 \le b \le -3 \\ 2\sin(2\pi b) + 5 & -3 < b < -1 \end{cases}$$



More and more complicated functions could be juxtaposed together:

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



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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