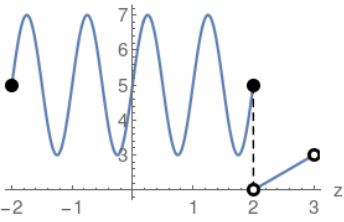
Piecewise Functions

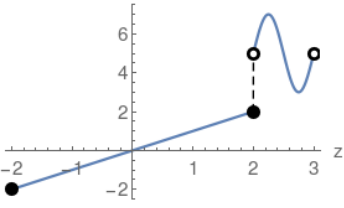
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the z-axis

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



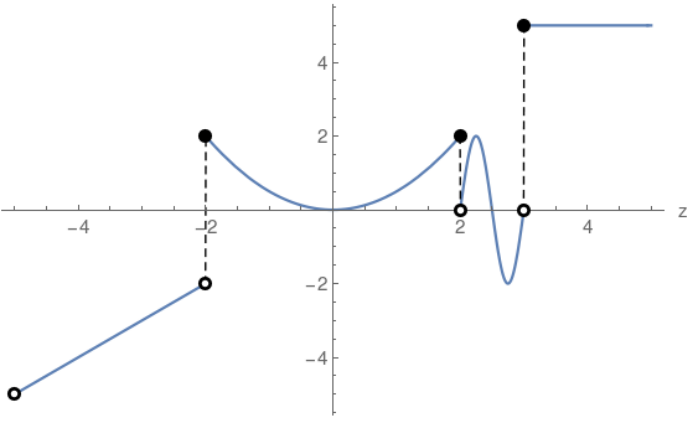
where two functions are pieced together, and for that matter could be pieced differently i.e. swapped:

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



More and more complicated functions could be pieced together:

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



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

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

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