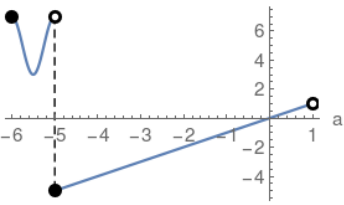
Piecewise Functions

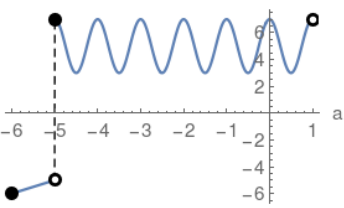
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the a-axis

$$\begin{cases} 2\cos(2\pi a)+5 & -6 \le a < -5 \\ a & -5 \le a < 1 \end{cases}$$



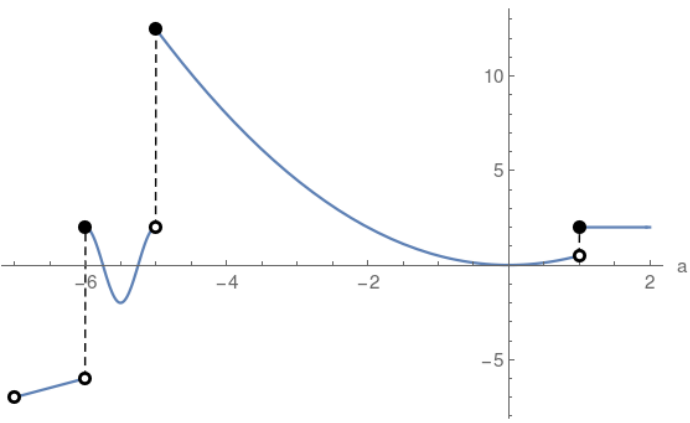
where two functions are glued together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} a & -6 \le a < -5 \\ 2\cos(2\pi a)+5 & -5 \le a < 1 \end{cases}$$



More and more complicated functions could be glued together:

$$\begin{cases} a & -7 < a < -6 \\ 2\cos(2\pi a) & -6 \le a < -5 \\ \frac{a^2}{2} & -5 \le a < 1 \\ 2 & a \ge 1 \end{cases}$$



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

●

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

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