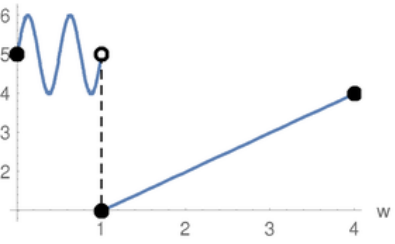
Piecewise Functions

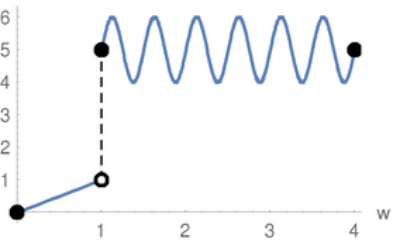
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the w-axis

$$\begin{cases} \sin(4\pi w) + 5 & 0 \le w < 1 \\ w & 1 \le w \le 4 \end{cases}$$



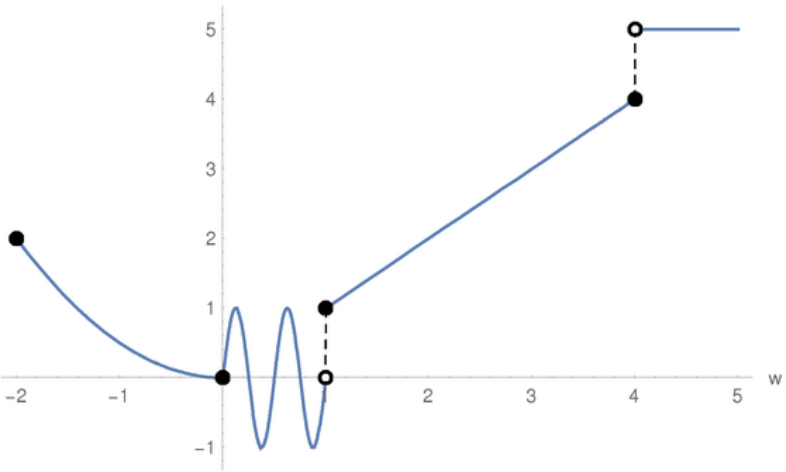
where two functions are juxtaposed together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} w & 0 \le w < 1 \\ \sin(4\pi w) + 5 & 1 \le w \le 4 \end{cases}$$



More and more complicated functions could be juxtaposed together:

$$\begin{cases} \frac{w^2}{2} & -2 \le w < 0 \\ \sin(4\pi w) & 0 \le w < 1 \\ w & 1 \le w \le 4 \\ 5 & w > 4 \end{cases}$$



Solid disk corresponds to inclusion of the point or any of ⩽ ⩾ = operators

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

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