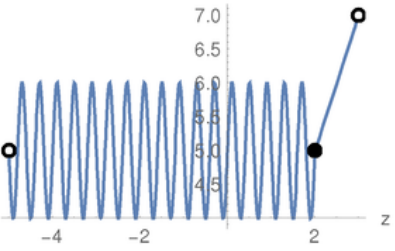
Piecewise Functions

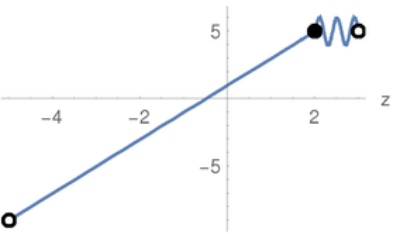
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the z-axis

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



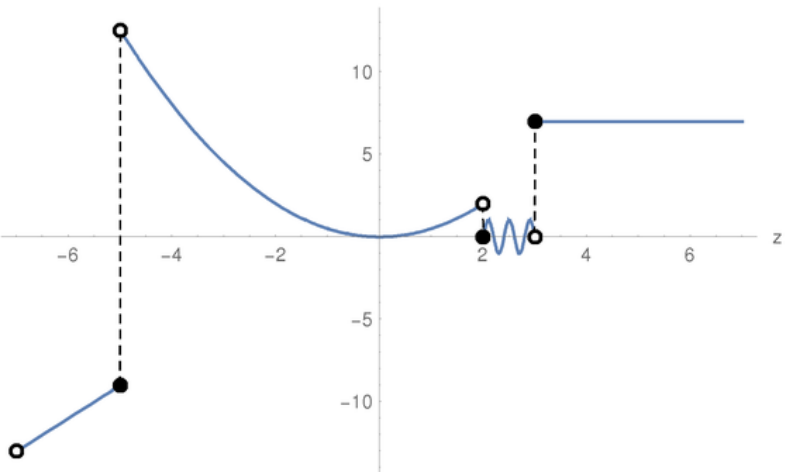
where two functions are glued together, and for that matter could be pieced differently i.e. swapped:

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



More and more complicated functions could be glued together:

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



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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