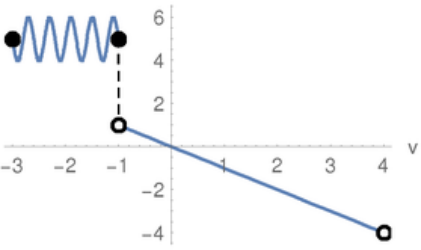
Piecewise Functions

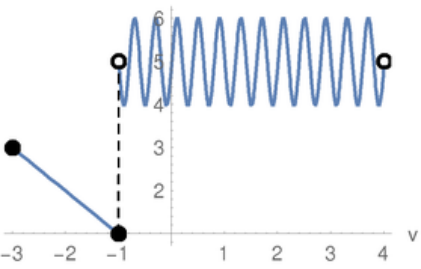
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the v-axis

$$\begin{cases} \sin(5\pi v) + 5 & -3 \le v \le -1 \\ -v & -1 < v < 4 \end{cases}$$



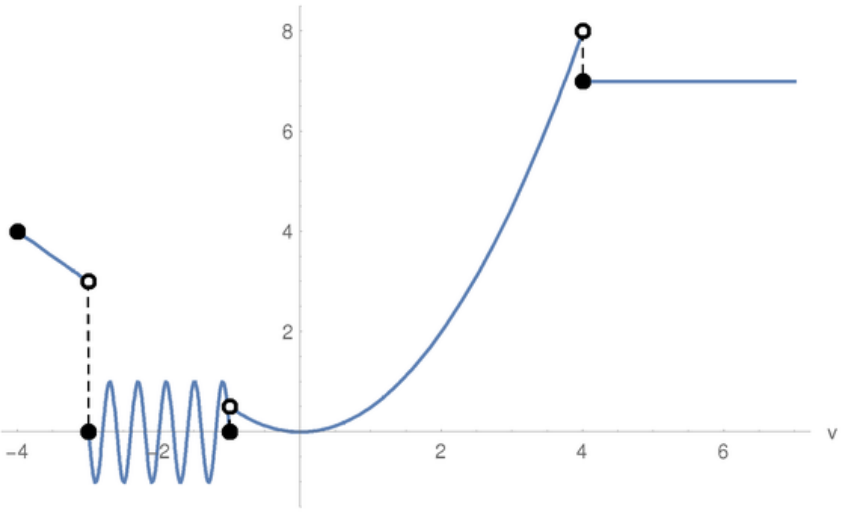
where two functions are placed together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} -v & -3 \le v \le -1 \\ \sin(5\pi v) + 5 & -1 < v < 4 \end{cases}$$



More and more complicated functions could be placed together:

$$\begin{cases} -v & -4 \le v < -3 \\ \sin(5\pi v) & -3 \le v \le -1 \\ \frac{v^2}{2} & -1 < v < 4 \\ 7 & v \ge 4 \end{cases}$$



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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