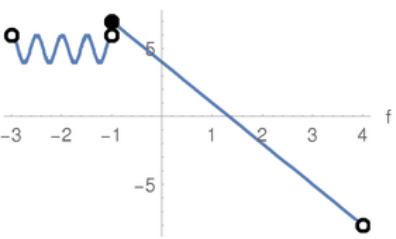
Piecewise Functions

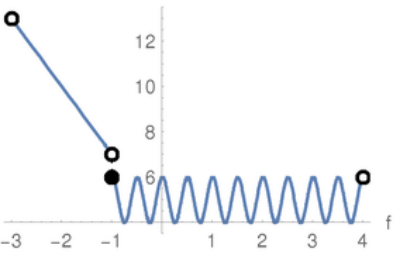
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the f-axis

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



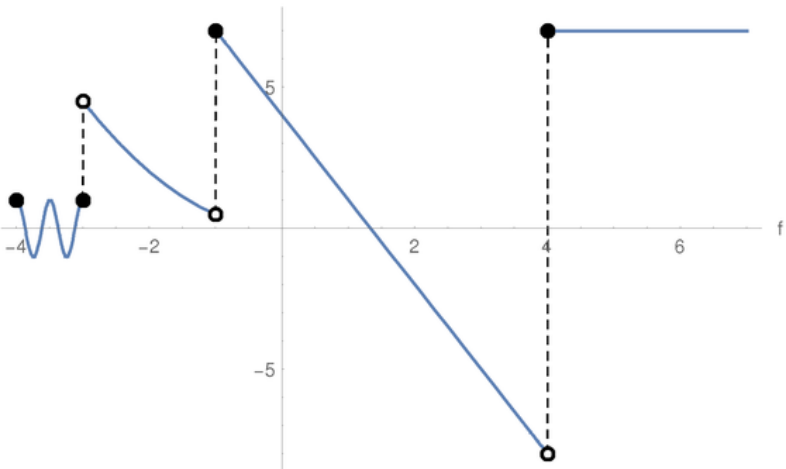
where two functions are placed together, and for that matter could be pieced differently i.e. swapped:

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



More and more complicated functions could be placed together:

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



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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