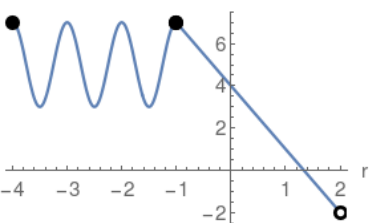


Piecewise Functions

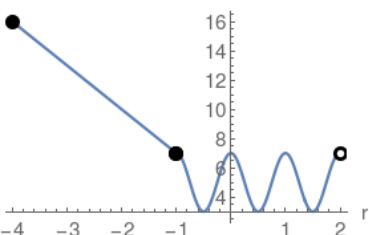
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the r-axis

$$\begin{cases} 2 \cos(2 \pi r) + 5 & -4 \leq r < -1 \\ 4 - 3 r & -1 \leq r < 2 \end{cases}$$



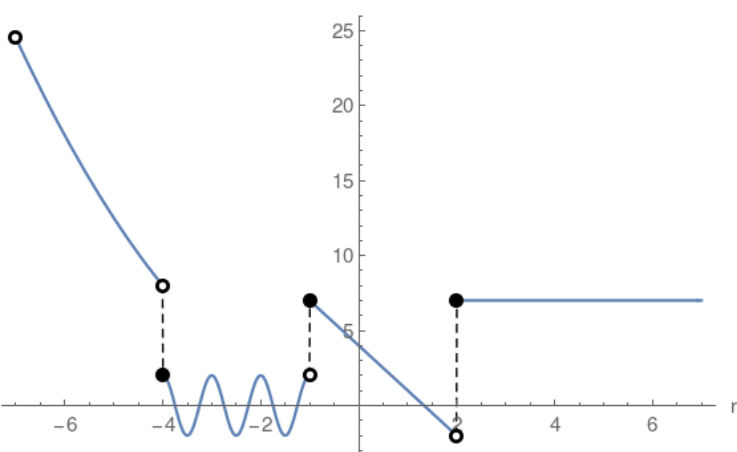
where two functions are placed together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} 4 - 3 r & -4 \leq r < -1 \\ 2 \cos(2 \pi r) + 5 & -1 \leq r < 2 \end{cases}$$



More and more complicated functions could be placed together:

$$\begin{cases} \frac{r^2}{2} & -7 < r < -4 \\ 2 \cos(2 \pi r) & -4 \leq r < -1 \\ 4 - 3 r & -1 \leq r < 2 \\ 7 & r \geq 2 \end{cases}$$



Solid disk refers to inclusion of the point or any of $\leq \geq =$ operators



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

