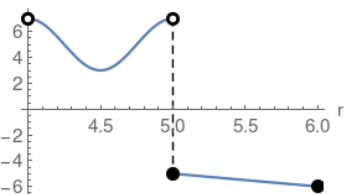


Piecewise Functions

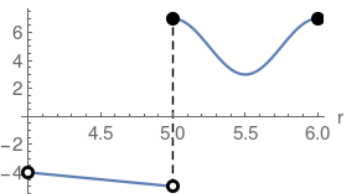
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the r-axis

$$\begin{cases} 2 \cos(2\pi r) + 5 & 4 < r < 5 \\ -r & 5 \leq r \leq 6 \end{cases}$$



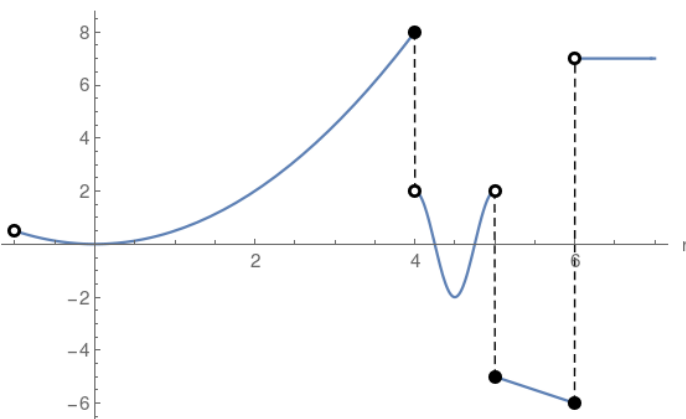
where two functions are stitched together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} -r & 4 < r < 5 \\ 2 \cos(2\pi r) + 5 & 5 \leq r \leq 6 \end{cases}$$



More and more complicated functions could be stitched together:

$$\begin{cases} \frac{r^2}{2} & -1 < r \leq 4 \\ 2 \cos(2\pi r) & 4 < r < 5 \\ -r & 5 \leq r \leq 6 \\ 7 & r > 6 \end{cases}$$



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



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

