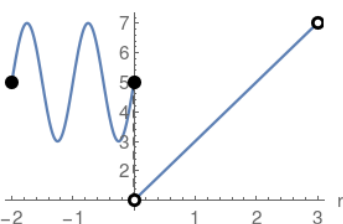


Piecewise Functions

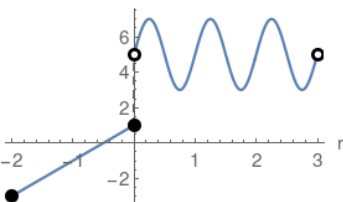
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the r-axis

$$\begin{cases} 2 \sin(2 \pi r) + 5 & -2 \leq r \leq 0 \\ 2r + 1 & 0 < r < 3 \end{cases}$$



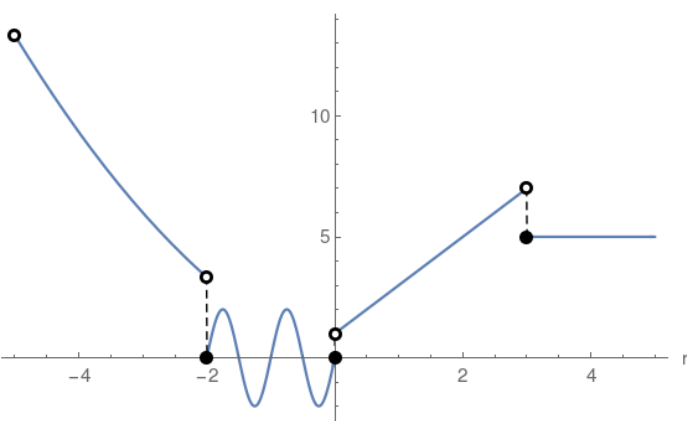
where two functions are glued together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} 2r + 1 & -2 \leq r \leq 0 \\ 2 \sin(2 \pi r) + 5 & 0 < r < 3 \end{cases}$$



More and more complicated functions could be glued together:

$$\begin{cases} \frac{r^2}{3} - r & -5 < r < -2 \\ 2 \sin(2 \pi r) & -2 \leq r \leq 0 \\ 2r + 1 & 0 < r < 3 \\ 5 & r \geq 3 \end{cases}$$



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

