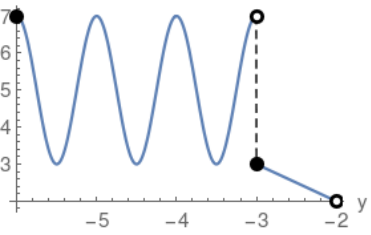
Piecewise Functions

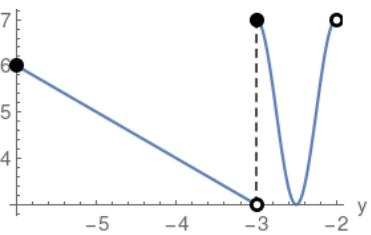
To define piecewise means that the function values and graphs are defined over a particular and generally limited section of the y-axis

$$\begin{cases} 2\cos(2\pi y) + 5 & -6 \le y < -3 \\ -y & -3 \le y < -2 \end{cases}$$



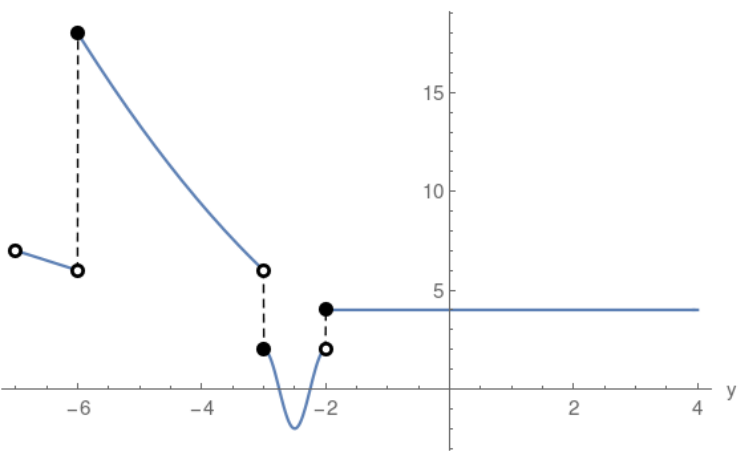
where two functions are juxtaposed together, and for that matter could be pieced differently i.e. swapped:

$$\begin{cases} -y & -6 \le y < -3 \\ 2\cos(2\pi y) + 5 & -3 \le y < -2 \end{cases}$$



More and more complicated functions could be juxtaposed together:

$$\begin{cases} -y & -7 < y < -6 \\ \frac{y^2}{3} - y & -6 \le y < -3 \\ 2\cos(2\pi y) & -3 \le y < -2 \\ 4 & y \ge -2 \end{cases}$$



Solid disk refers to inclusion of the point or any of ⩽ ⩾ = operators

●

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

○