$$y(x) = \cos(\frac{n_x 2\pi x}{L})$$

$$y(x) = \cos\left(\frac{n_x 2\pi x}{L}\right) \tag{1}$$

You can refer to Eq. 1 by name in the source text. The backslash after the dot tells \LaTeX not to interpret it as the end of a sentence. (\LaTeX leaves extra space after a period at the end of a sentence.)