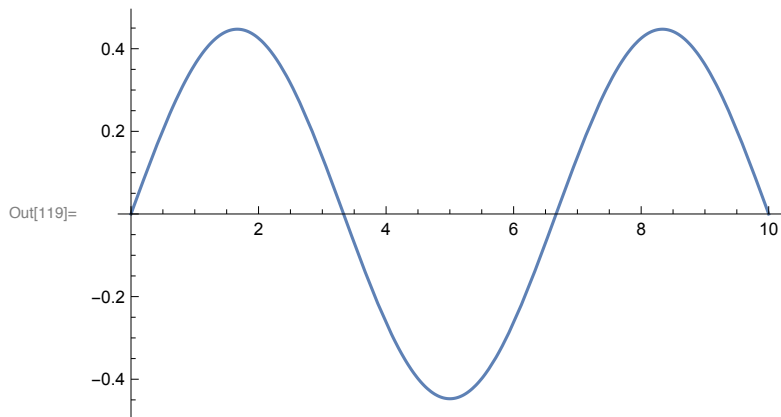In[117]:= $\psi[x\_, nx\_] := \sqrt{\dfrac{2}{L}} * Sin\left[\dfrac{nx * \pi}{L} x\right];$

L = 10;

Plot[ψ[x, 3], {x, 0, 10}]

Out[119]=

In[120]:=

Manipulate[Plot[ψ[x, nx]^2, {x, 0, 10}, PlotLegends → {nx}],
 {nx, 1, 100, 1}, ControlType → Slider]

Out[120]=