

In[3]:= $\omega = \text{Pi}$

Out[3]= π

In[4]:= $\omega\theta = 1.5 \omega$

Out[4]= 4.71239

In[5]:= $\beta = \omega\theta / 4$

Out[5]= 1.1781

In[6]:= $\gamma = 0.1$

Out[6]= 0.1

In[8]:= $s = \text{NDSolve}[\{y''[x] + 2\beta y'[x] + \omega\theta^2 \text{Sin}[y[x]] == \gamma \omega\theta^2 \text{Cos}[\omega x],$
 $y[0] == 0, y'[0] == 0\}, y, \{x, 0, 30\}]$

Out[8]= $\left\{ \left\{ y \rightarrow \text{InterpolatingFunction} \left[\left\{ \left\{ \text{Domain: } \{0., 30.\} \right\} \right\} \right] \right\} \right\}$

In[9]:= $\text{Plot}[\text{Evaluate}[\{y[x], y'[x], y''[x]\} /. s], \{x, 0, 30\}, \text{PlotStyle} \rightarrow \text{Automatic}]$

