## $\begin{array}{c} \textbf{Ordinary Differential Equations} \\ \textbf{\textit{Classification}} \end{array}$

## Question

For the following differential equation, give its order, and whether it is linear or non-linear. If it is linear, state whether it is homogenous or nonhomogenous.

$$y'' + x\sin xy' = y$$

## Answer

Linear, 2nd order, homogeneous.