## Problem 4

For Problems 1-4 determine the order of the differential equation.

$$
\sin \left(y^{\prime \prime}\right)+x^{2} y^{\prime}+x y=\ln x
$$

## Solution

The order of this ODE is 2 because the highest derivative in the equation is the second derivative.

$$
\sin \left(y^{\prime \prime}\right)+x^{2} y^{\prime}+x y=\ln x
$$

