

**KFUPM – Math 202– Quiz 3**

Name : ..... ID #.....Sec# ..... Serial #: .....

**Question:** Given that  $y_1 = \sin(\ln x)$  and  $y_2 = \cos(\ln x)$  are solutions of

$$x^2y'' + xy' = -y, \quad x \in (0, \infty),$$

use the Wronskian to show that  $\{y_1, y_2\}$  forms a fundamental set.