Summary

Let $y_1$ and $y_2$ be solutions of $y'' + p(t)y' + q(t)y = 0$ where $p(t) + q(t)$ are cts on an open interval $I$.

$\Rightarrow$ the following four statements are equivalent:

1. The fnys $y_1 + y_2$ are a fundamental set of solutions on $I$.
2. The fnys $y_1 + y_2$ are LI on $I$.
3. $W(y_1, y_2)(t_0) \neq 0$ for some $t_0$ in $I$.
4. $W(y_1, y_2)(t) \neq 0$ for all $t$ in $I$.  