Please include step showing how you arrive at the answer. Thank You

(b) The following functions $y_1 = \frac{1}{x}$ and $y_2 = x$ are solution of $\frac{d^2y}{dx^2} + \frac{1}{x}\frac{dy}{dx} - \frac{1}{x^2}y = 0$. Show that y_1 and $y_2 = x$ are linearly independent on any interval excluding 0.

Hence write down the general solution of $\frac{d^2y}{dx^2} + \frac{1}{x}\frac{dy}{dx} - \frac{1}{x^2}y = 0$

Please include step showing how you arrive at the answer. Thank You