Quiz No:1 Math 202 Name:_____Section_____ID_____

Q1. Determine a region of the xy-plane for which first order differential equation $\frac{dy}{dx}=\frac{3y^{2/3}}{2}$ has a unique solution; whose graph passes through a point (x_o, y_o) of the region.

Q2. Determine if $2(y^3-1)dx+x\,dy=0$ is linear or non-linear differential equation if $'x'$ is taken as a **DEPENDENT** variable and $'y'$ an INDEPENDENT variable.

Q3. Solve the IVP $\frac{1}{2}dy/dx+\frac{1}{2}y=f(x)$, $y(0)=0$ with $f(\chi)=\begin{cases}1 & 0\le x\le 1\\ 0 & x>1\end{cases}$