Name:_____QUIZ NO:1 Section 5 ID_____Points:10

Q1. Substitute $y = e^{rx}$ in $y'' - y' - 2y = 0$ and determine all values of r for which $y = e^{rx}$ is a solution of the differential equation.

Q2. Time rate of change of a function $f(t)$ is proportional to cube root of $f(t)$. Write a differential equation which represents this situation.

Q3. Find an explicit solution of the IVP $\frac{dy}{dx} = xy; \quad y(0) = 4$.

Q4. Solve the IVP: $2\frac{dy}{dx}+\frac{2}{x}y=\frac{e^x}{2x} \quad y(1)=2$