Name	ID	SEC	Sr

Q1) Is the D.E $(3 + y + 2y^2 \sin^2 x)\,dx = (-x - 2xy + y\sin(2x))\,dy$ Exact? If it is , then solve it.

Q2) Make an appropriate substitution to convert the D.E
$$\frac{dy}{dx} = e^{x+y+1},$$

to separable D.E. Do not solve the new equation.

Q3) Solve : $y\,dx - \left(x + y\cot\left(\dfrac{x}{y}\right)\right)dy = 0$

Q4) Reduce the following D.E into linear. Do not solve it.

$$x\,y' - 2y = 12\,x^3\sqrt{y}, \quad x \neq 0$$