

$$\text{is } (xe^{xy} - 2y)dy + (ye^{xy} + 2x)dx = 0 \text{ EXACT?}$$

IF SO, SOLVE IT

$$\frac{\partial}{\partial x} (xe^{xy} - 2y) = 1 \cdot e^{xy} + x \cdot ye^{xy} = e^{xy}(1 + xy)$$
$$\frac{\partial}{\partial y} (ye^{xy} + 2x) = 1 \cdot e^{xy} + y \cdot xe^{xy} = e^{xy}(1 + xy) \quad \curvearrowright =$$

EQ'N IS EXACT