

Problem 20

In each of Problems 19 through 22, show that the given equation is not exact but becomes exact when multiplied by the given integrating factor. Then solve the equation.

$$\left(\frac{\sin y}{y} - 2e^{-x} \sin x \right) + \left(\frac{\cos y + 2e^{-x} \cos x}{y} \right) y' = 0, \quad \mu(x, y) = ye^x$$