

2.4 - Exact Equations

2.4a

[illegible]



2.4b

Example: Determine whether the given differential equation is exact. If it is exact, solve it.

$$(\sin y - y \sin x) dx + (\cos x + x \cos y - y) dy = 0$$

[illegible]

[illegible]

2.4c

Example: Solve the given initial-value problem.

$$(e^x + y) \, dx + (2 + x + ye^y) \, dy = 0 \quad y(0) = 1$$

[illegible]

$$\cos x \, dx + \left(1 + \frac{2}{y}\right) \sin x \, dy = 0$$

$$\cos x \, dx + \left(1 + \frac{2}{y}\right) \sin x \, dy = 0$$



2.4d

Where does the integrating factor come from?

[illegible]