Implicit Differentiation

Example:

Using implicit differentiation, determine y' for $y^3 + x^2 = e^{xy}$.

Logarithmic Differentation

Example:

Using logarithmic differentiation, find the

derivative of $h(x) = \dfrac{(x+1)e^x}{x^3 \sin x}$

Related Rates

Example:
The concentration of a pollutant (measured in grams per cubic metre) at a location *x* metres away from the source is given by

$$c(x) = 0.28e^{-0.25x^2}$$

An observer is located 5m from the source. How does the concentration change as she runs away from the source at a speed of 4.8m/s?