

Lecture 2 - Direction Fields

$$\frac{dy}{dx} = f(x, y)$$

E.g. 1: $\frac{dy}{dx} = \underbrace{2xy}_{f(x, y)}$ (Linear, first order)

Slope of tangent line to graph of solution function y at (x, y)

Since $\frac{dy}{dx} = f(x, y)$, the value of $f(x, y)$ at (x, y) gives us the slope of tangent line

to the curve y at (x, y)

(x, y)	$f(x, y) = 2xy$
$(1, 2)$	4

