

Differential Equations
SEPARATION OF VARIABLES

If a differential equation can be written in the form...

$$g(y)dy = h(x)dx \Leftrightarrow \frac{dy}{dx} = \frac{h(x)}{g(y)}$$

$$\int g(y)dy = \int h(x)dx$$

$$G(y) + C_1 = H(x) + C_2$$

$$G(y) = H(x) + C_2 - C_1$$

$$G(y) = H(x) + C, \text{ where } C = C_2 - C_1$$