

Implicit Differentiation

1. Find $\frac{dy}{dt}$ when

$$y^2 + t^2 = 9$$

2. Find $\frac{dx}{dt}$ when

$$xt + x^2 + 3t = t^2$$

3. Find $\frac{dy}{dx}$ when

$$y = x^2y + e^x$$

4. Find $\frac{dy}{ds}$ when

$$s^2 + s + 1 = y^2 + y + 1$$

5. Find $\frac{dx}{ds}$ when

$$\sin(x) + xs + \sin(s) = 1$$