1. Consider the parametric curve  $x = t\cos(t)$ ,  $y = t\sin(t)$ . Find  $\frac{dy}{dx}$ .

$$\frac{dy}{dx} = \frac{\frac{dy}{dt}}{\frac{dx}{dt}} = \frac{\sin(x) + t\cos(x)}{\cos(t) - t\sin(t)}$$

Name: Richard

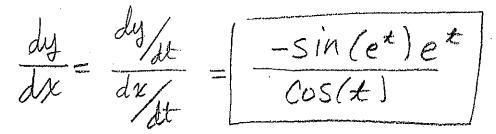
Quiz 15  $\diamondsuit$ 

MATH 201 March 19, 2024

1. Consider the parametric curve  $x = t^2 + t$ ,  $y = t \ln(t)$ . Find  $\frac{dy}{dx}$ .

$$\frac{dy}{dx} = \frac{\frac{dy}{dt}}{\frac{dx}{dt}} = \frac{\ln(t) + t \frac{1}{t}}{2t + 1} = \frac{\ln(t) + 1}{2t + 1}$$

1. Consider the parametric curve  $x = \sin(t)$ ,  $y = \cos(e^t)$ . Find  $\frac{dy}{dx}$ .



Name: Richard

Quiz 15 ♡

MATH 201 March 19, 2024

1. Consider the parametric curve  $x = t + \cos(t)$ ,  $y = \sin(e^t)$ . Find  $\frac{dy}{dx}$ .

$$\frac{dy}{dx} = \frac{dy/\mu t}{dx} = \frac{\cos(e^t)e^t}{1-\sin(t)}$$