

## 微積分作業6

May 8, 2026

- 1 Find  $\mathbf{r}'(t)$ ,  $\mathbf{r}(t_0)$ , and  $\mathbf{r}'(t_0)$ . Then sketch the curve represented by the vector-valued function and sketch the vectors  $\mathbf{r}(t_0)$  and  $\mathbf{r}'(t_0)$ .

$$\mathbf{r}(t) = 3 \sin t \mathbf{i} + 4 \cos t \mathbf{j}, \quad t_0 = \frac{\pi}{2}$$

- 2 Find the domain and range of the function.

$$f(x, y) = e^{xy}$$

- 3 Find the limit and discuss the continuity of the function

$$\lim_{(x,y) \rightarrow (1,1)} \frac{xy}{x^2 + y^2}$$