## **Quiz 7** 30 July 2024

## Answer the questions in the spaces provided. Show all of your work and circle the answer you would like to have graded for each question.

Name: \_\_\_\_\_

1. Calculate the work done by the force field  $\vec{F}(x, y) = \langle 3y - e^{\sin x}, 7x + \cos(y^4) + 1 \rangle$  on a particle that traverses the cirle  $x^2 + y^2 = 9$  exactly once counter-clockwise.

2. Find the area of the region enclosed by the curve  $\vec{r}(t) = \langle \sin t \cdot \cos t, \sin t \rangle$  for  $0 \le t \le \pi$ .