

WRITE YOUR NAME:

MAC 2313 B51 Spring 2024

Written homework #13

Due Tuesday April 16th, in Canvas

Question 1. Determine the length of the curve $\mathbf{r}(t) = \langle 2t, 3 \sin 2t, 3 \cos 2t \rangle$ on the interval $0 \leq t \leq 2\pi$.

Question 2. Find the linear approximation to $f(x, y) = 3 + \frac{x^2}{16} + \frac{y^2}{9}$ at the point $(x, y) = (-4, 3)$, and use it to approximate $f(-3.999, 3.006)$.