

Math 241: Quiz 5

Show ALL Work

Name _____

1. Find parametric equations for the tangent line to the curve given by

$$x = 1 - t^2, \quad y = 1 - t^3, \quad z = e^{t+1}$$

at the point $(0, 2, 1)$.

Parametric Equations of Line:

2. Find the arc length of the curve traced by

$$x = 7t - \cos t, \quad y = t + 7 \cos t, \quad z = 5\sqrt{2} \sin t,$$

where $0 \leq t \leq \pi$. Simplify your answer.

Arc length:

(simplify)