

QUIZ 14

Name _____

1. An object moving in space has position vector $\vec{r}(t) = (5 \cos 4t)\vec{i} + (5 \sin 4t)\vec{j} + (5t^2 - 3t - 2)\vec{k}$. Find the velocity of the object.

2. Evaluate using polar coordinates: $\int_0^2 \int_0^{\sqrt{4-x^2}} \arctan\left(\frac{y}{x}\right) dy dx$

3. Find the gradient of function $f(x, y) = x^2 + y^3$.