

Full name: _____ GT ID: _____ Sec: _____

Quiz 9 Version B

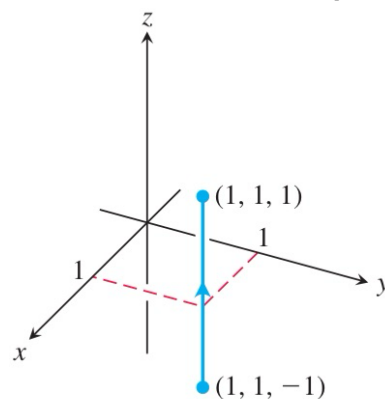
You have 15 minutes to take the quiz. No phones, notes, or use aids of any kind is permitted.

1. (4 points) **[Line Integrals of Scalar Functions]** *True or False.*

- (a) If $r_1(t)$, $t \in [0, 1]$ is a parametrization of a curve C , then $r_2(t) = r_1(1 - t)$, $t \in [0, 1]$, is also a parametrization of C but with opposite orientation. [A]

☐ **TRUE** ☐ **FALSE**

- (b) Find a parameterization for space curve C which is the line segment from $(-1, -1, -1)$ to $(1, 1, 1)$ shown in the image. [AN]



2. (6 points) **[Line Integrals of Scalar Functions]**

Evaluate the line integral where C is the the half circle with radius 2 in the xz -plane with $z \geq 0$. [AJN]

$$A = \int_C \sqrt{x^2 + z^2} ds, \quad C : \mathbf{r}(t) = \langle 2 \cos t, 0, 2 \sin t \rangle, t \in [0, \pi].$$

