

Name:

PID:

1. For all questions on this quiz, let $\mathbf{x} = \langle 1, 0, 0 \rangle$ and $\mathbf{y} = \langle 1, 2, 3 \rangle$.

(a) What is $Lerp(\mathbf{x}, \mathbf{y}, \frac{1}{3})$ equal to?

(b) What is $Lerp(\mathbf{y}, \mathbf{x}, \frac{1}{3})$ equal to? (*note the reversed order of arguments*)

(c) What is $Lerp(\mathbf{x}, \mathbf{y}, -2)$ equal to?

2. Let \mathbf{x} and \mathbf{y} be as above. What is the point \mathbf{v} on the line containing \mathbf{x} and \mathbf{y} that is closest to the point $\mathbf{w} = \langle 1, 2, 0 \rangle$? For what value α is $\mathbf{v} = Lerp(\mathbf{x}, \mathbf{y}, \alpha)$?