Name: Student ID:

CSE 167 - Intro to Computer Graphics - Fall 2004

Quiz #2 ANSWERS — October 14 — Transformations in $\mathbb{R}^3$

You must show your work in order to get credit for a problem. Label your answers clearly. Consider the following sequence of OpenGL commands:

```
glMatrixMode(GL_MODELVIEW);
glLoadIdentity();
glTranslatef( 1, 0, 0 );
glRotatef( 90, 1, 0, 0 );
glRotatef( 90, 0, 1, 0 );
glBegin(GL_POINTS);
glVertex3f( 1, 0, 0 );
glEnd();
```

1. At what position in $\mathbb{R}^3$ is the point placed?

Answer: $\langle 1, 1, 0 \rangle$.

2. What is the 4×4 model view matrix equal to at the end of the code?

Answer: $\begin{pmatrix} 0 & 0 & 1 & 1 \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$