1. There are many shades of pink. Give two OpenGL \texttt{color3f} commands, one to make a bright, hot, day-glo pink, and the other to make a pale, delicate rose.

2. The $z$ values at any point in a 3D triangle are calculated in the rasterization hardware using linear interpolation. For a 3D triangle with vertices $(1, 2, 6)$, $(5, 4, 1)$, $(8, 1, 1)$, what is the $z$ value which will be found for the point with $(x, y)$ coordinates $(5, 3)$? In other words, for the point $(5, 3, z)$, find $z$.

3. Find all two-dimensional vectors which are left fixed by the following affine transformation:

$$
\begin{bmatrix}
3 & -1 & 4 \\
-2 & 2 & 6 \\
0 & 0 & 1
\end{bmatrix}
$$

4. Bezier curves can be used to control the path of an animated object. For instance, the parabolic path of a thrown basketball can be described by a quadric Bezier curve. Say we want 10 frames of animation. In frame zero the center of the ball is at $(0, 0)$, and in frame 9 its center is at $(6, 0)$. To make the ball arc up inbetween, we add a third control point at $(3, 6)$. Say we also want to put some spin on the ball, so that in each frame it rotates around its own center by $\pi/10$.

Write the matrix for the modeling transformation you would use to place the ball correctly in frame $i$. The coefficients in the matrix can be functions of $i$, and you do not need to find real values for anything (eg. writing $\cos(\pi/10)$ is just fine).