

CS130 Winter 2013 Homework 4

Name:

Student ID:

1. Perspective transformations A) are linear transformations B) keep parallel lines parallel C) are affine transformations D) all of the above E) none of the above
2. (T / F) Given invertible matrices M_1, M_2 , and M_3 , $(M_3 M_2 M_1)^{-1} = M_1^{-1} M_2^{-1} M_3^{-1}$
3. (T / F) If a function is linear it is also affine.
4. (T / F) All rotations in 3D space can be specified with 2 real numbers.
5. (T / F) The inverse of a translation matrix is its transpose.
6. (T / F) dividing the resulting (x,y,z) coordinates by the homogeneous coordinate W is part of the projection transform.
7. (T / F) Translation affects vectors the same as points.
8. What is the matrix on top of the current matrix stack after the following functions are called?
`glLoadIdentity();`
`glScalef(2,2,1);`
`glPushMatrix();`
`glScalef(1,1,1);`
`glTranslatef(1,0,0);`
`glPushMatrix();`
`glTranslatef(1,0,0);`
`glPopMatrix();`
`glPopMatrix();`
`glTranslatef(2,0,0);`