

1. Describe affine and projective transformations.
2. How can affine and projective transformations be represented with a matrix? (Hint: homogeneous coordinates)
3. List well-known affine transformations you have learned. Write them in matrix form.
4. How can we represent a composition of affine or projective transformations with a single matrix?
5. How many points and their images uniquely determine an affine transformation? How can the transformation matrix be derived from these points?
6. How many points and their images uniquely determine a projective transformation?
7. How can a point be transformed by a 3D affine transformation expressed by a 4×4 matrix?
8. How can a vector be transformed by a 3D affine transformation expressed by a 4×4 matrix?
9. How can a normal vector be transformed by a 3D affine transformation expressed in a 4×4 matrix?
10. Which property of a 4×4 transformation matrix is related to a change in the orientation (winding) of the coordinate system?