Rotate:

Rotate from grid view (rotation is done around the X, Y and Z axis).

- The general rotation method is called 3 times(for each axis)

General rotation:

Parameters required: normal vector and angle.

- Rotation base point: represented by the shapes pivot
- Rotation angle: given by grid view values(or a double number)

Steps:

- I need to rotate the difference vector (pivot- base), because the main rotation is done in 0, 0, 0 and the translation is made after that. Because the shape might already have a rotation, I need to read that rotation and get it to 0, 0, 0 + the difference vector. In order to calculate the rotation of the difference vector, I must calculate the rotation parameters. I will save this matrix in translationTransformation Matrix3D.

- Before I obtain the rotation parameters, I need to rotate the current rotation matrix. I will save this matrix in rotationTransformation Matrix3D.

- I am going to calculate the quaternion and apply the rotation for the translationTransformation and rotationTransformation.

- The rotation matrix is the correct one. The only thing left to do is to adjust the translate parameters (greatly influenced by the rotation and pivot)

- In order to do this, I call a method that adjusts the translation parameters (some simple operations are done here). This method also saves all my calculated value in the open cascade order (the rotation and translation parameters are saved in a different order compared to the normal mathematical matrices).

Note: the rotation methods work with `_currTransform` and `_pivot`