1.

a. Magnification: When a small section of the texture image is mapped to a large portion of screen area. The texel area is compressed into a smaller area of the screen then it would normally be in the original texture map

b. Minification: When a large portion of the texture image is mapped to a small portion of the screen. The texel is magnified, or enlarged to fit a section of the screen that’s larger than the original size of the texture map.

2. Mip mapping is pre-calculating a series of decreasing resolution versions of a texture image. Mip mapping is used when the screen space being rendered is small (like for distances being simulated) and the full sized texel array is unnecessary so a lower resolution texel array is used.

3. Environment mapping is creating a reflection on a shiny object where the reflection is the surrounding environment around the object. If an object has a mirror finish, or close to it, realistically the viewer should be able to see the surrounding environment in the reflection of the object. To achieve this look, environment mapping is used by creating a box of texture surrounding the object and using the reflect ray from the environment to simulate the 1shininess of the object.