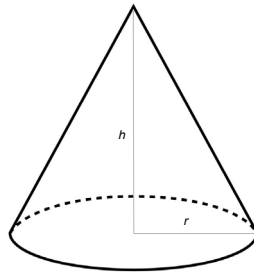


Texture Mapping Practice

Texture Mapping a Cone

When texture mapping a cone, there are several ways one could “unwrap” the cone onto the texture. Here, we’ll imagine that the entire top line of the texture ($v = 1$) is mapped to the tip of the cone, and the bottom line of the texture ($v = 0$) is mapped to the bottom rim of the cone. For a cone with height h and radius r , create a texture mapping method that will map each point (x, y, z) on the surface (not the base) of the cone to a point (u, v) on a rectangular texture.



Suppose that the cone is approximated using a geometry consisting of twelve triangular faces to form the sides. Could the mapping described above serve as the basis for choosing UV coordinates for these panels? If not, propose an alternative.