**Week 8 Tutorial Questions**

6.2 In the development of the Phong reflection model, why do we not consider light sources being obscured from the surface by other surfaces in our reflection model?

6.3 The Phone reflection model uses four vectors to calculate a color for an arbitrary point on a surface. Why do we use these four vectors?

**Four vectors:**

**Light source, Viewer, normal, and reflector, these four vectors are required in order to complete the three different components: Diffuse, specular and ambient**

6.4 How should the distance between the viewer and the surface enter the rendering calculations?

**Add a factor of the form to the diffuse and specular forms. “The light from a point source that reaches a surface is inversely proportional to the square of the distance between them”**

6.7 Let φ be the angle between the normal and the halfway vector, ϕ be the angle between the viewer and the reflection angle, and θ be the angle between the normal and the light source. Show that if v lies in the same plane as l, n, and r, then the halfway angle satisfies ϕ = 2φ.

l

n

h

r

v

ϕ

φ