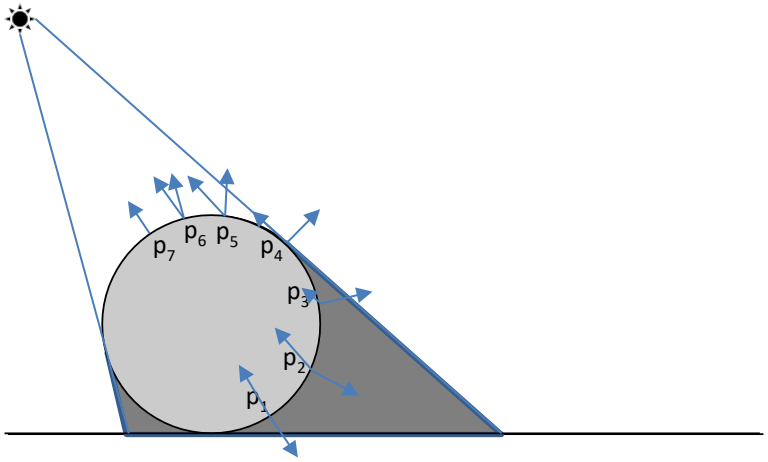
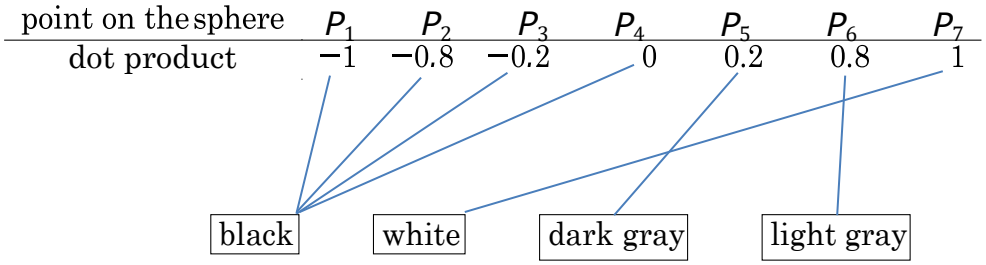
Lighting Practice Problems

1. This diagram shows the side view of a light source and a sphere, both in the same vertical plane. Denote the portion of the dotted line (floor) that will be in shadow due to the sphere.



2. You are given 7 different points on the surface of a sphere. First you compute the unit normal vector at each point, then you compute the dot product of the normal vector with the unit light vector at each point.

   (a) For a white light, draw a line from each dot product to the corresponding shading color.



   (b) In the picture (side view) of a sphere and a light source below, label 7 points that could be $P_1, \cdots, P_7$ (i.e. those points would give roughly the dot products shown above).

See above.