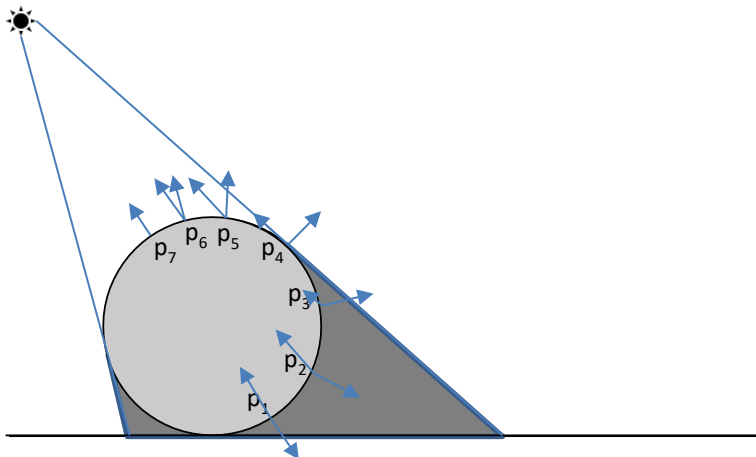


Lighting Practice Problems

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.

point on the sphere	P_1	P_2	P_3	P_4	P_5	P_6	P_7
dot product	-1	-0.8	-0.2	0	0.2	0.8	1

black	white	dark gray	light gray
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Lines connect the dot products to the shading colors: P_1 (-1) to black, P_2 (-0.8) to white, P_3 (-0.2) to dark gray, P_4 (0) to dark gray, P_5 (0.2) to light gray, P_6 (0.8) to light gray, and P_7 (1) to light gray.

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

See above.

