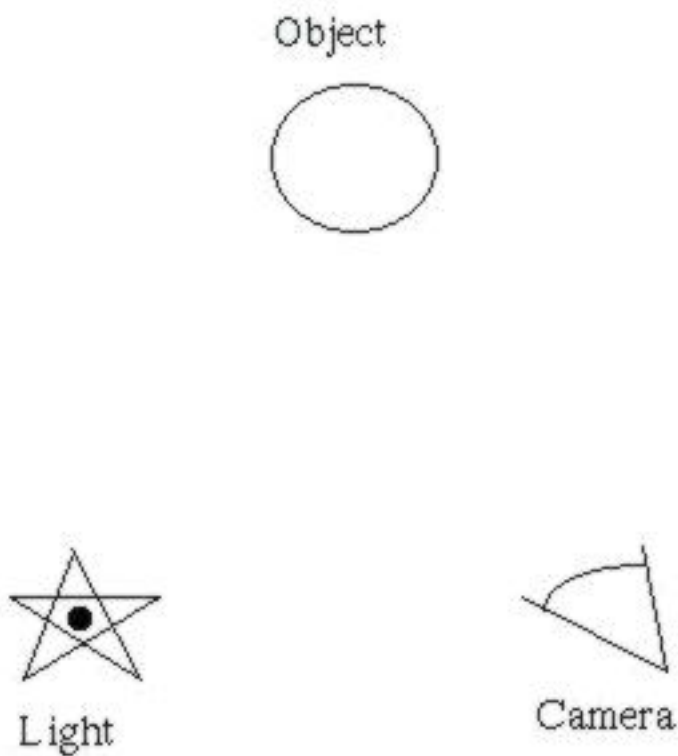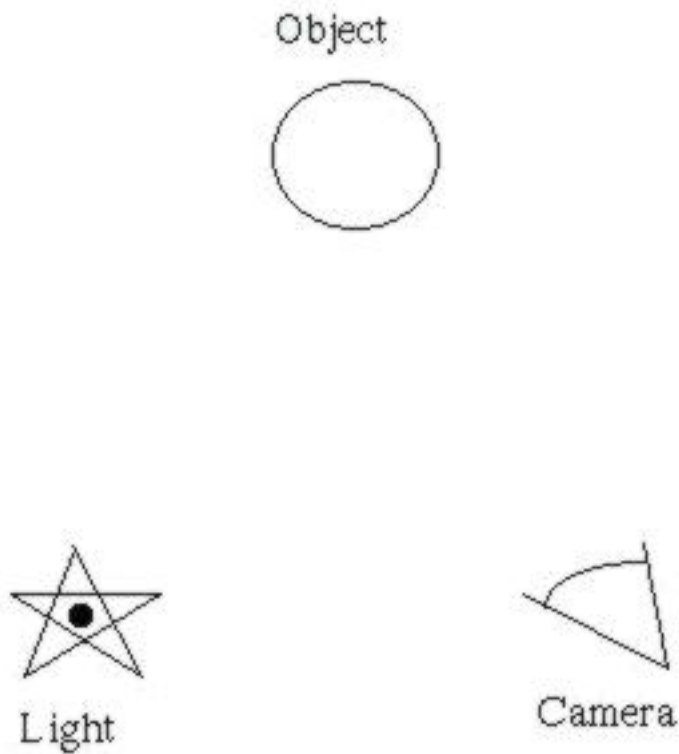# CS 184, Spring 2001
Final
Professors Brian A. Barsky and James F. O'Brien

Problem #3

(a) [4 points] In the scene below, label the brightest spot on the object assuming that it has a diffuse (Lambertian) surface.

Object

Light   Camera

(b) [4 points] Label the brightest spot on the object assuming that it has a highly specular surface.

Object

Light   Camera

Problem #4

[4 points] In 25 words of less, what is the difference between local and global illumnation?

Problem #7

[9 points] Indicate which cubic splines have the specified properties.

	Hermite	Bézier	Catmull-Rom
(a) Convex hull property			
(b) Fully interpolatory			
(c) Specify the slop of the curve at the endpoints of each segment			

Problem #8

[1 point] Did you put your name on the front of this exam?

Problem #9

[5 points] Which of the following would allow a ray tracer to simulate diffuse reflection?
(a) Deeper recursion
(b) Shooting more rays at each bounce (in random directions)
(c) Fuzzy logic
(d) Higher precision arithmetic
Please explain your answer.

Problem #10

[4 points] A radiosity solution for a particular environment is computed and displayed. What parts (if any) of the solution would need to be recomputed if the viewpoint is moved?

Problem #13

[9 points] What is the difference between bump mapping, dispacement mapping, and environment mapping?

Problem #14

[4 points] Why would you want to perform back-face culling if you already had a built in hardware Z-buffer?

Problem #15

[4 points] You are producing a film for a screen that is not flat (like an IMAX screen). What would be a good rendering technique to use?

Problem #16

[4 points] Name two shapes which could be the result of (planar) perspective projection applied to a line segment.

**If you have any questions about these online exams
please contact mailto:examfile@hkn.eecs.berkeley.edu**