No.: _____ Name: _____

Computer Science
Homework for Chapter 10 **Due: 2010/06/02**

_____1. The shape of an 3D graphic object is usually represented by

A. A sphere B. A polygonal mesh C. A triangle D. A texture map

_____2. Which of the following is not naturally handled by a local lighting model?

A. Specular light B. Diffuse light C. Ambient light D. Shadows

_____3. Hidden-surface removal is the process of

A. Discarding those objects that fall outside the view volume
B. Applying a parallel projection rather than a perspective projection
C. Identifying parts of surfaces that are in a shadow
D. Identifying surfaces that are blocked from the camera's view

_____4. Which of the following is the simplest shading technique?

A. Phong shading B. Flat shading
C. Gouraud shading D. Bump mapping

_____5. Which of the following is an advantage of ray tracing over the traditional rendering pipeline?

A. It is less time consuming.
B. It implements a local lighting model.
C. It can be implemented in real time.
D. It implements a global lighting model.

_____6. Producing a sequence of frames to fill the gap between key frames is called

A. Storyboarding B. Morphing C. In-betweening D. Motion capture

_____7. Motion capture is a means of applying

A. A global lighting model B. A local lighting model
C. Dynamics D. Kinematics

_____8. Avars are used to

A. Adjust a character's shape B. Simulate textured surfaces
C. Locate objects in a scene graph D. Reposition the camera

_____9. Bright highlights on an object are produced by

A. Specular light B. Diffuse light C. Ambient light D. Shadows

10. In the following table, connect the term to each phrase that gives the best description of the term. (48%)

Term		**Descriptive Phrase**
scan conversion	_____	**A.** The region of the projection plane containing the image
frame buffer	_____	**B.** Contains a bit map of the image
ray tracing	_____	**C.** A means of constructing an object's shape
image window	_____	**D.** A means of associating a predetermined image with a surface
texture mapping	_____	**E.** Contains models of all the objects in a scene
scene graph	_____	**F.** Light that is reflected in many directions
rendering pipeline	_____	**G.** A collection of relatively standard rendering activities
dynamics	_____	**H.** Reducing attention to only those objects that may appear in an image
diffuse light	_____	**I.** Associating pixel positions with points in a scene
procedural model	_____	**J.** An elementary means of hidden surface removal
painter's algorithm	_____	**K.** Contains information regarding distance from camera to objects
storyboard	_____	**L.** A means of simulating texture by varying the orientation of a surface
z-buffer	_____	**M.** Disregards light interactions among objects
bump mapping	_____	**N.** A means of implementing a global lighting model
clipping	_____	**O.** A means of outlining an entire animation sequence
local lighting model	_____	**P.** A means of analyzing motion based on laws of physics