- A camera has a field of view of 90x90 degrees, an image resolution of 400x400 pixels, and that the center of the image is the optical center of the camera. A point P has 3-D coordinates (1m, 2m, 8m) in camera coordinates. Find the pixel projection of point P in the image.

- A camera views a square lying on a plane; where the plane is parallel to the image plane
  - Show that the width of the square in the image doesn't depend on the location
  - Find the relationship between the width of the square in the image, and the distance to the plane

- A CCD sensor is 10mm x 10mm, and has 10M sensor elements. Lens focal length is 6 mm. What is the instantaneous field of view (iFov); ie the angular size of one pixel at the center?

- What is the IFOV for the human eye? Assume one receptor cell on the retina is .003 mm wide, and the focal length is 17 mm

- What is width of smallest object you can see at 30m? Assume that the image of the object has to cover at least one receptor cell