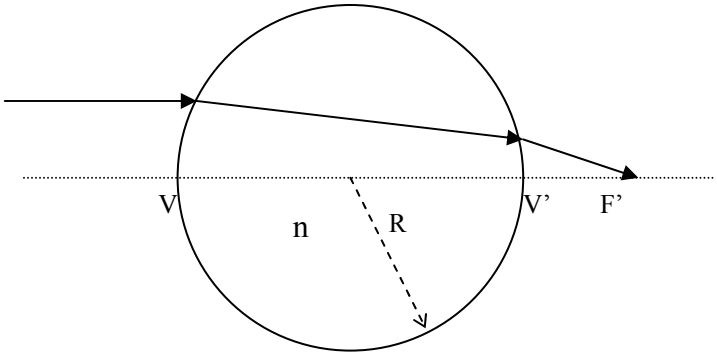
PHYC/ECE 463 Advanced Optics I
Fall 2007
Homework #6, Due Wednesday Oct. 3

1. Consider a ball-lens (shown below) made form a single glass sphere (n=1.5) having a radius R and surrounded by air (n=n'=1). *(4 points)*



(a) Calculate the position of the paraxial image focal point with respect to V'.

(b) Determine and draw the position of the principal planes.

(c) Calculate the paraxial image focal distance f'?

2. Problem 3.49 (K&F) *(4 points)*

3. **Problem 3.56 (K&F)** *(2 points)*