

## Fish bowl

The image is on a line connecting your eye and the fish.

### Location:

For a refracting surface  $N$  and  $N'$  are at the center of curvature.  $N$  and  $N'$  are conjugate and the fish is at  $N$ . The image of the fish is there for at  $N'$  or the center of the bowl

or

$$\frac{n'}{z'} = \frac{n}{z} + \phi$$

$$\phi = \frac{(n' - n)}{R} = .001/\text{mm}$$

$$\frac{1}{z'} = \frac{1.333}{-333} + .001$$

$$\underline{z' = -333} \leftarrow \text{C.C.}$$

### Size:

$$m = m_{\text{nodal}}$$

$$m = \frac{n}{n'} = \underline{1.333}$$

or

$$m = \frac{z'/n'}{z/n} \quad z = z'$$

$$m = \frac{n}{n'} = \underline{1.333}$$

enlarged.