

Afocal Glass Rod

Both surfaces are convex $\rightarrow \phi_1 > 0 \quad \phi_2 > 0$
 $f_1 > 0 \quad f_2 > 0$

$$m = -\frac{f_2}{f_1} = -0.5 \quad (\text{must be negative})$$

Afocal: $L = f_{R1}' - f_{F2} \quad f_{R1}' = n f_1 \quad f_{F2} = -n f_2$

$$L = n f_1 + n f_2 = 150 \text{ mm}$$

$$n = 1.5 \quad f_1 = 2 f_2$$

$$1.5(2f_2 + f_2) = 150$$

$$f_2 = 33.33 \text{ mm}$$

$$f_1 = 66.67 \text{ mm}$$

$$\phi_1 = \frac{1}{f_1} = (n-1)/R_1$$

$$\phi_2 = \frac{1}{f_2} = (1-n)/R_2$$

$$R_1 = 33.33 \text{ mm}$$

$$R_2 = -16.67 \text{ mm}$$