**SIMPLE LENS APPROXIMATIONS**

For the plano-convex lens, the focal length equals twice the radius of the convex surface. This is also true for the plano-concave; however, since the radius is negative, this results in a negative focal length: \( f = 2R \)

For other forms of simple lenses, the following applies (Note: \( \mathcal{O} = \text{power} \)):

\[
\frac{1}{EFL} = \mathcal{O} = \frac{1}{2} \left[ \frac{1}{R_1} - \frac{1}{R_2} \right]
\]

For the double-convex or double-concave lens having equal radii, the focal length will equal the radius: \( R_1 = R_2 = f \)

If two or more thin lenses are stacked close together, their powers \((1/EFL)\) may be added:

\[
\mathcal{O}_{(1+2)} = \mathcal{O}_1 + \mathcal{O}_2 = f_{(1+2)} = \frac{f_1 \cdot f_2}{f_1 + f_2}
\]

If a substantial separation "d" exists between lenses, then:

\[
f_{(1+2)} = \frac{f_1 \cdot f_2}{f_1 + f_2 - d}
\]

**SOURCE:** WALKER ASSOCIATES