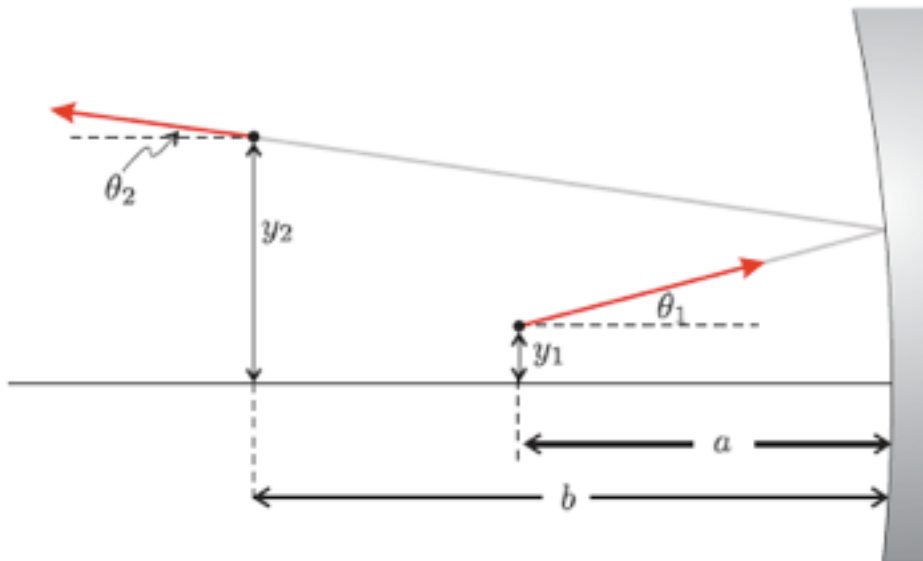


5.) Matrix method



A light ray travels through a distance a , reflects from a curved mirror, and then travels through a distance b . The ABCD matrix has the following form:

$$\begin{bmatrix} A & B \\ C & D \end{bmatrix} = \begin{bmatrix} 1 - 2b/R & a + b - 2ab/R \\ -2/R & 1 - 2a/R \end{bmatrix}$$

Suppose that the initial ray is one of many which leaves a point on an object positioned at $d_o = a$ before the mirror.

- What condition is needed to form an image at distance $d_i = b$?
- What is the magnification?