Physics 108 Homework Assignment#1 (due on 4/5/2021)

Reading materials:

Pedrotti 3rd Edition: **Chapter 1**: 1-1; 1-2; 1-3;
                                     Chapter 2: 2-1; 2-2; 2-4; 2-5; 2-6; 2-7; 2-8

Lecture Notes: pp. 1-17

Homework: (Pedrotti 3rd Edition)

1.   2-4

2.   2-5

3.   2-6

4.   2-8

5.   2-9

6.   2-10

7.   2-32

8.   2-34

9.   Derive the refraction equation with $n_2 < n_1$, $s_1 > 0$ (the object is on the left side or the side before refraction), and $R < 0$ (the center of curvature C on the left side or the side before refraction). From your result, show that $n_1/s_1 + n_2/s_1' = (n_2-n_1)/R$ if the sign convention for s_1, R, and s_1' is used.

10.   **Optional for two extra points**: Derive the refraction equation with $n_2 < n_1$, $s_1 < 0$ (the object is on the right side or the side after refraction), and $R > 0$