Abdelhafid Boussouf University Center - Mila **Academic year 2023–2024**

Institute of Natural and Life Sciences

Module : physics

Series N° 2 : Geometric optics

Exercise 1 : Planar Diopter

Consider a point object A in water.

1-Find the position of the image A' of A through the water-air diopter.

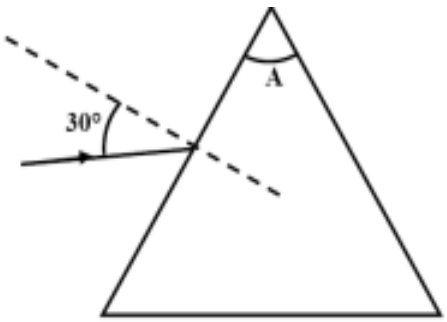
If the object is 10 cm from the water-air diopter.

2-Calculate the position of the image relative to the diopter.

3-Calculate the displacement AA' of the image relative to the object.

Exercise 2 : Prism

Complete the path of the light ray through the prism. Given n_{prism} = 1.52; A = 60°.



Exercise 7 : Spherical Diopter

A convex spherical diopter with a radius of 5 cm separates two media with refractive indices n_1=2, n_2=1.

1-Calculate the positions of the object and image foci and determine the nature of the diopter.

2-Characterize the image formed by the diopter of a straight object AB 2 cm in height, located 15 m in front of the vertex S.

3-Perform the geometric construction.