Exp.No. 6: Refractive index of water, by real and apparent depth using a traveling microscope

Purpose: To measure the refractive index of water.
Apparatus:
1-Traveling microscope.
3- Object like paper that had written with (x).
4- vessel of water
Experimental Details:
1. Draw (x) at bottom of a vessel and read the depth(d1) using travelling microscope
2. Power some water into the vessel and then read the depth (d2).

3.Place a piece of paper at the top of the water level and read the depth (d3).

Theory: Refractive index is the ratio of the velocity of light in vacuum to the velocity of light in a specific medium.

So, n= c/v or

Refractive index = real depth/ apparent depth.

Readings & Results:
Tabulate the readings in the table below and then calculate the refractive index (n) of water. Calculate the percentage error. The actual value of refractive index is (n=1.33).

d1	d2	d3	d3-d1	d3-d2	n=(d3-d1/d3-d2)