Buoyant forces

Buoyant Forces The purpose of this lab is to calculate buoyant forces of objects submerged in water. The first step in the lab was to measure the mass of a metal cylinder, which was found to be 100g, and then to calculated it's weight, which was . 98 newtons. Then next step was to measure the apparent weight of the cylinder when it is completely submerged in a bath of water using the formula Wa= ma*g , this was found to be 88. 5grams. Knowing these two numbers, the buoyant force that the water places on the object can be calculated using the formula Fb= W-Wa , Wa=. 8673n W=. 98n Fb=. 1127n Part 2 of this lab consisted of weighing an empty cup, which was 44grams. And then filling another cup up to a certain point the if any more water was added, it would spill out of a little opening in the cup, the water spilled out could be caught in the first cup. This is done so that the water spilled out can be weighed and compared to a calculated weight of which the water should be. After filling the cup, the cylinder was put into the cup , allowing the water to spill out and be caught in the first cup. After the water had spilled out it was weighed, which was 8. 3g, converted to kg was . 0083g. The weight of this displaced water in Newtons was 0. 081423n. The percentage error with the buoyant force from step one was calculated using, this resulted, using . 114 for Fb and . 0813 for Wdisp, a 28. 7% error. After completing this lab, it has become more apparent as to how to calculate buoyant forces and how that information can be used.