

## A Deeper Look at Submerged Objects

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### Abstract:

Center of mass and hydrostatic force problems are frequently a significant obstacle for students in integral calculus classes. Often, these difficulties arise from the geometry of the problem, when students try to set up the correct integral. Familiarity with some basic physics principles can provide a simpler path to their solutions. These principles can help the students solve the particular problem, and also contribute to a deeper understanding of how integration applies to modeling physical problems. We discuss hydrostatic force problems on a variety of shapes and lay out a progression of interesting problems demonstrating the methods.



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