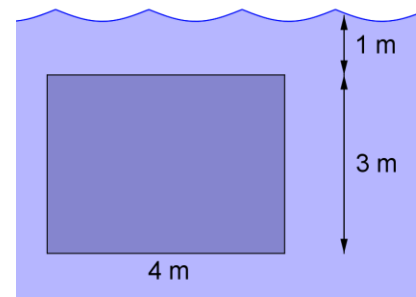


1. A vertical plate is partially submerged in water as shown. Use a Riemann sum to approximate the hydrostatic force against one side of the plate. Then find the exact hydrostatic force against one side of the plate.



2. Find the centroid of the region enclosed by $y = \cos x$, $y = 0$, $x = 0$, and $x = \frac{\pi}{2}$.

Q: What word starts with "e" and has only one letter in it?