

# Physics 1100

## Fluids in Motion

### Student Data Sheet

The following photo was taken after the jaws of the caliper were placed inside of the orifice to measure its diameter. The photo is meant for the viewer to determine the tenths place (location of the zero tick mark on the sliding scale).



This is a close-up of the sliding scale for the same measurement. It is meant for the viewer to more accurately determine the next two digits of the measurement.



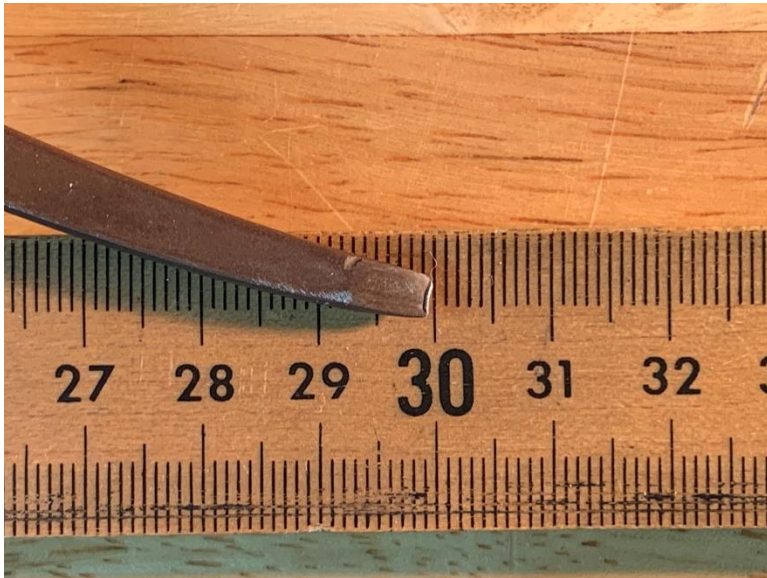
Here is a photo of a pair of calipers gripping the outside of our cylinder right at its diameter.



We did this by moving the cylinder back and forth and 'recorded' the largest portion of the circular base (its diameter) with the caliper. Actually, because the caliper hinge is tight, we can just pass the object through the caliper jaws once. The separation distance of the caliper's 'mouth' is the length of interest.



Let's now measure this distance with a meter stick. For accurate readings, I'll include two photos. Each photo will be taken with the camera lens directly above the reading of interest. Here is the left side of the caliper.



Without moving the meter stick or caliper, a photo was then taken of the right side.

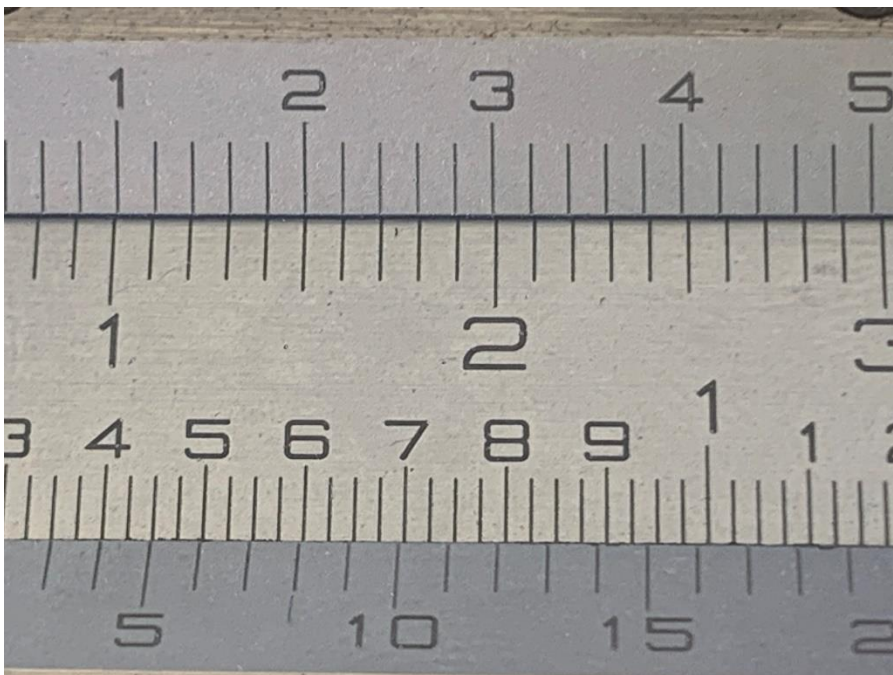




Although your lab manual doesn't elaborate on the measurement of the cylinder's diameter, you should be measuring the *inner* diameter. Here is a photo of a pair of Vernier calipers after measuring the thickness of the plastic cylinder. Use this photo to determine the position of the zero on the sliding scale.



Again, the next photo can be used to determine with accuracy the next two digits of the measurement.



The next series of photos are to be used to determine height the water falls. Here is a photo of the left edge of our rod that was used as a marker.



Actually, I should have used the same meter stick that was used to measure the diameter of the cylinder. It is not that this one is less accurate, I just don't like how it is labeled. Notice that the eleven cm mark is not labeled "11", but rather as "1". Before I include the photo of the right edge of the rod, I'll include the following photo for clarity (if I didn't, the last photo would be meaningless).



After viewing the previous photo, you can now determine what values these tick marks actually represent.

