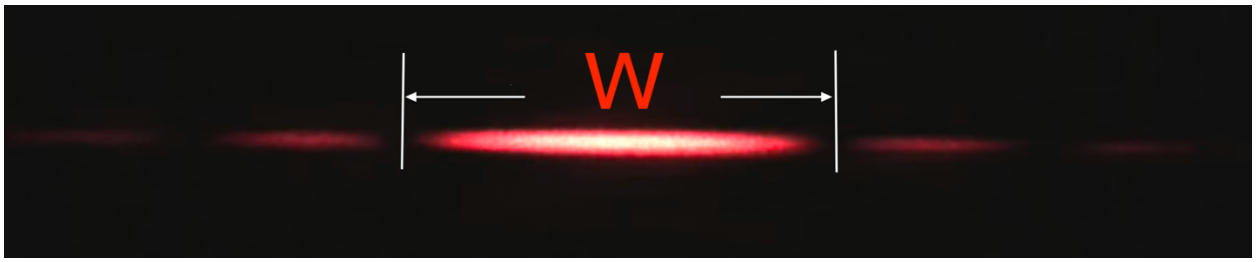
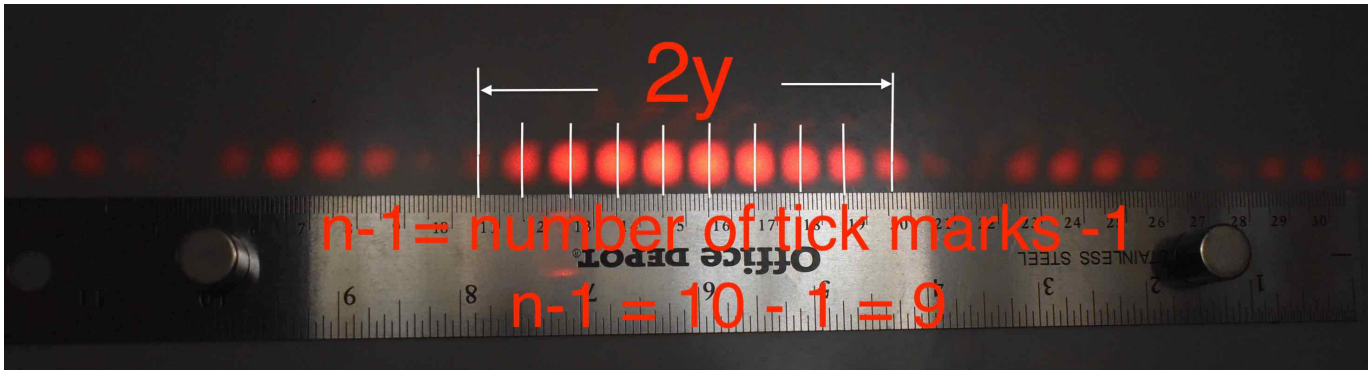
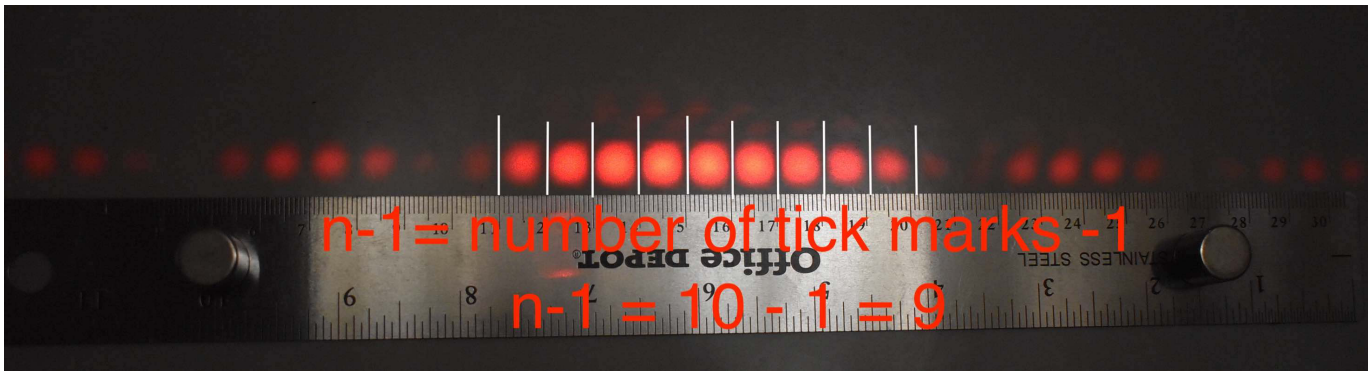
PHYS222
How to measure single and double slit diffraction patterns



How to measure the width of single slit pattern (W is distance from centers of dark spots)



How to measure interference spacing of bright spots (resulting from constructive interference) of a **double slit pattern**



The spacing can also be measured by measuring the center of the dark spots (resulting from destructive interference) of a **double slit pattern.** This tends to be easier to do.

Since you are interested in the spacing between (2 consecutive) bright spots, divide the total distance 2y by **number of tick marks minus one (i.e., by n-1).** This will give you the average distance between consecutive bright spots. This gives us

$$y_{average} = 2y/(n-1)$$

For the patterns above the number of tick marks is 10 and thus you would divide the measured distance 2y (marked above) by 9 to get the average distance between the bright spots.