PHYS222

DATA TABLE for **LENS EQUATION ONLY**

Note that focal length from part one (i.e., the distance object method) is denoted by f_{dist_obj}

Trial	Lens location *on optics bench [This column is simply to tell you where to place lens in next column]* **(cm)**	**object distance o** [Lens distance from light source] **(cm)**	Screen (**image**) location *on optical bench* **[fuzzy$_{left}$/clear/fuzzy$_{right}$** measurements] **(cm)**	**Image distance i** *[distance of image from lens]* **(cm)**	**focal length** (from lens eq) **(cm)**	δi [$\Delta fuzzy/2$] (cm)	δf (cm)
1	7 x f_{dist_obj} =						
2	6 x f_{dist_obj} =						
3	4 x f_{dist_obj} =						
4	2 x f_{dist_obj} =						
5	1.75 x f_{dist_obj} =						
Example f_{dist_obj} = **19.6 cm**)	8 x f_{dist_obj} = 8 x 19.6cm = 156.7cm **Use 160cm**	160 cm	182.6cm/183.4/183.9 183.9cm-182.6cm = 1.3 cm	183.4cm – 160 cm= **23.4** cm	(using lens eq) **20.4 cm**	1.3cm/2= 0.65cm **use 0.7**	Using **Equation 1 from above** $\delta f = \pm 0.5$