

## Interference and Diffraction Using Visible Light

Name: \_\_\_\_\_ Sec./Group \_\_\_\_\_ Date: \_\_\_\_\_

Experiment 1: Single Slit  $a = 0.16\text{mm}$ 

$m$	$L$	$R$	$(R-L)/2$	Theoretical	% error
1				0.325 cm	
2				0.650 cm	
3				0.975 cm	
4				1.300 cm	

Experiment 2: Single Slit  $a = 0.08\text{mm}$ 

$m$	$L$	$R$	$(R-L)/2$	Theoretical	% error
1				0.650 cm	
2				1.300 cm	
3				1.950 cm	
4				2.600 cm	

Experiment 3: Double Slit  $a = 0.04\text{mm}$   $d = 0.25\text{mm}$ 

$n$	$L$	$R$	$(R-L)/2$	Theoretical	% error
1				0.104 cm	
2				0.312 cm	
3				0.520 cm	
4				0.728 cm	

Experiment 4: Double Slit  $a = 0.04\text{mm}$   $d = 0.50\text{mm}$

<b><i>n</i></b>	<b><i>L</i></b>	<b><i>R</i></b>	<b><math>(R-L)/2</math></b>	<b><i>Theoretical</i></b>	<b><i>% error</i></b>
1				0.052 cm	
2				0.156 cm	
3				0.260 cm	
4				0.364 cm	

Write your answers to any lab questions here: