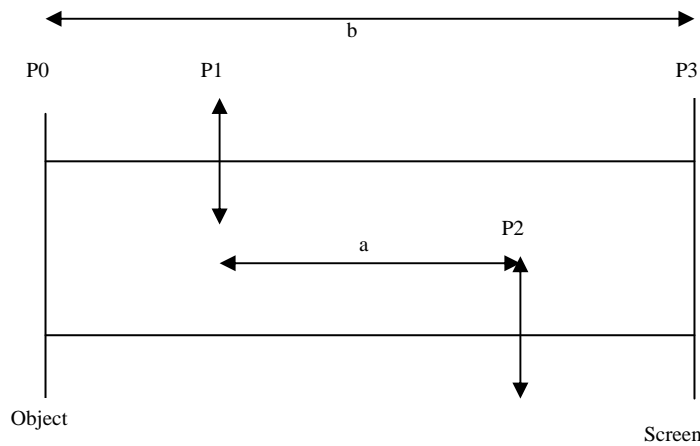


Student _____ Partner _____

<u>Part 1. Imaging a distant object</u>		<u>Part 2. Auto collimation</u>	
Trial	f, m	Trial	f, m
1		1.	
2		2.	
3		3.	
	$f_{avg} =$		$f_{avg} =$

Part 3 Conjugate foci.



$b = P3 - P0 =$ _____

$a = P2 - P1 =$ _____

$f = (b^2 - a^2) / 4b =$ _____

To find the focal length of the lens by using the lens equation, $(1/d_o) + (1/d_i) = 1/f$, and the data of part 3:

From the lens position 1:

$d_o = P1 - P0 =$ _____ m

$f1 = d_o * d_i / (d_o + d_i) =$ _____ m

$d_i = P3 - P1 =$ _____ m

From the lens position 2:

$d_o = P2 - P0 =$ _____ m

$f2 = d_o * d_i / (d_o + d_i) =$ _____ m

$d_i = P3 - P2 =$ _____ m

$f = (f1 + f2) / 2 =$ _____ m