Date	_Room Tem	pBP (Bar	rometric Pressure)	Department	
Group Nun	nber	_Student Number_	Name_	Grade	

-	14 - 2	•

Date_	Room '	Тетр	_BP (Barome	etric Pressure)Γ	Department	
Group	Group NumberStudent N				Name	Grade	;
			Lab14 C	Optical le	ever		
	Reading before the tested sample	Reading after the tested sample is	Scale difference	Distance between mirror and	Distance between front and hind legs	Thickness of tested sample	Mean
	is placed h_1	placed h_2	$D = h_2 - h_1$	meter stick	of optical lever	d	(mm)
1	_						
2							
3							
4							
			Imprint of	optical lever tri	pod		

Discussion:

■ 14-4 ■	
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Date	_Room Temp	BP (Barometri	c Pressure)	_Department	
Group Num	nberStuden	t Number	Name	Grade	-
	Lab15	Young's n	nodulus of me	tals	

•	15-2	•

Date	Room Temp	pBP (Bare	ometric Pressure))	_Department	
Group Num	ıber	Student Number_	1	Name	Grade	

Lab15 Young's modulus of metals

1. Beam A

	Material	Distance between cutting edges of stand	Width w	Height h	$K = L^3 / 4wh^3$	S
1.						
2.						
3.						

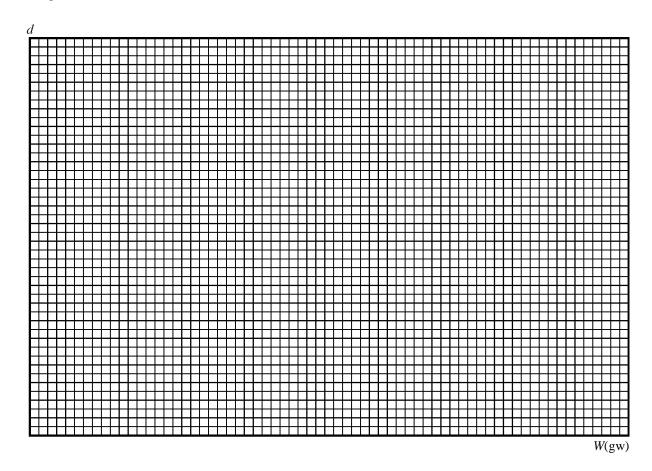
2. Distance between front and hind legs of optical lever l =

		Mass of	Increasing weight		Decreasing weight		
material No	No.	weights M	D	d = lD / 2S	D	d = lD / 2S	Mean d
	1.	200					
	2.	400					
1.	3.	600					
	4.	800					
	5.	1000					
	1.	200					
	2.	400					
2.	3.	600					
	4.	800					
	5.	1000					
	1.	200					
	2.	400					
3.	3.	600					
	4.	800					
	5.	1000					

•	15 - 4	•
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•	15-5	•
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4. Graphical method:



Eq. (5) gives
$$Y = KW/d$$

$$d = (K/Y)W$$

$$K/Y = slope \Longrightarrow Y = K/slope$$

Material	Slope	Y (dyne/cm ²)	Standard Y	Error (%)
1.				
2.				
3.				

•	15-7	•
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Date	_Room Tem	pBP (Ba	rometric Pressure	e)	_Departmer	nt
Group Nun	nber	_Student Number_		Name	G	rade

Date	Room	Temp	B	P (Baro	metric P	ressure)	Department	_
Group Nu	mber	Student Number			Name	NameGrade		
		La	b16 I	Reson	ance	of air colu	ımns	
1. Closed pij	pe							
Frequency f		Po	sition (d	em)		Mean half-wavelength	Wavalangth \ ~	
Hz	1	2	3	4	5	(cm)	(cm)	v(m/s)
							Mean speed of	
							sound v	
							(Experimental value)	
Temper	ature in la	aboratory 7	Γ =			ν (Experim	ental value) =	
Known	n speed of sound $v_t = $		Error (%) =					
2. Open pipe								
Frequency f				Mean half-wavelength	Wavelength λ	Speed of sound		
Hz	1	2	3	4	5	(cm)	(cm)	$v(\frac{m}{s})$
							Mean speed of sound ν (Experimental	
							value)	
Temper	ature in la	aboratory 7	Γ =			v (Experim	ental value) =	
Known	speed of	sound v_t	=			Error (%) =		

■ 16-4 ■
