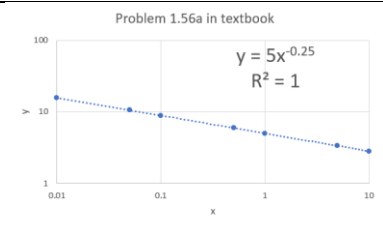
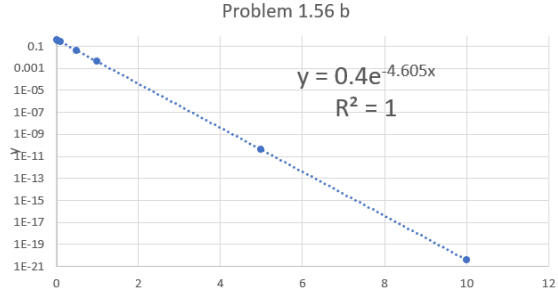
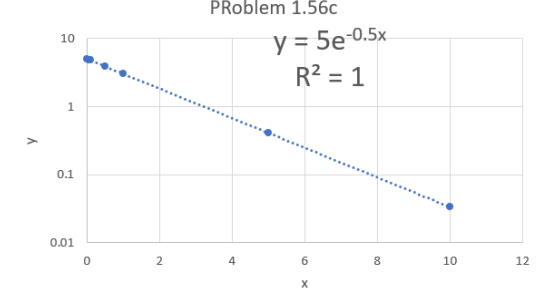
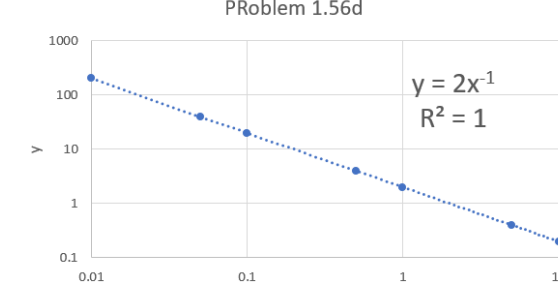


MEP365, Fall 2022

HW01 Answers

Problem No	Required	Answers	Remarks
14	The uncertainty	± 7.38 or the read value is 950 ± 7.38 N	
15 or modified problem 1.54 in textbook	K(5), K(10), K(20) and explanation in variation of K	K(5)=1.78, K(10)=1.92, K(20)=2.503	Generally, it is better to have constant static sensitivity for the whole range of operation
16 or problem No.1.56 in textbook	Plotting parts a, b, c, and d.	 <p>Problem 1.56a in textbook</p> <p>$y = 5x^{-0.25}$ $R^2 = 1$</p>	
15.6b		 <p>Problem 1.56 b</p> <p>$y = 0.4e^{-4.605x}$ $R^2 = 1$</p>	
15.6c		 <p>Problem 1.56c</p> <p>$y = 5e^{-0.5x}$ $R^2 = 1$</p>	
15.6d		 <p>Problem 1.56d</p> <p>$y = 2x^{-1}$ $R^2 = 1$</p>	

Problem	Required	Answers	Remarks
Problem 17 or 1.46 in textbook	Write the number in appropriate number of significant figures	i) 143.9 m ii) 103.26 kg iii) 1224.5 J iv) 65 m v) 5 J vi) 4.9 kg vii) 7.5 N viii) 0.1 Increased by one digit in order not to report zero answer	