Taylor 4.4	Complete proof by substitution of definitions			
Taylor 4.5	Complete proof by substitution of definitions			
part b	Data			
	11			
	13			
	12			
	Variance=	2		
	Sum(x_i)^2=	434		
	(Sum(x_i))^2/N=	432		
	RHS=	2		
Taylor 4.6				
	Data			
	10			
	13			
	8			
	15			
	8			
	13			
	14			
	13			
	19			
	8			
	13			
	13			
	7			
	8			
	6			
	8			
	11			
	12			

	8			
	7			
	Mean			
	10.7			
	Stdev			
	3.404331606			
	Sqrt(mean)			
	3.271085447			
	Given that we should round the mean to 11 and the standard deviation to 3 in both cases, there is no difference in our results.			
Taylor 4.12				
	Data			
	52.5			
	52.3			
	52.6			
	52.5			
	52.7			
	52.4			
	Stdev			
	0.141421356			
	Use standard deviation as uncertainty. Since first digit of stdev is 1, retain two significant digits.			
Taylor 4.16				
	Data			
	9.9			
	9.6			
	9.5			
	9.7			
	9.8			
	Mean			
	9.70			

	Stdev			
	0.158113883			
	SDOM			
	0.070710678			
	Expected value=9.70±0.07			
	The results don't quite agree with the expected result of 9.81. However, if the known value has only two significant digits (9.8), then our results do agree to that precision. To two digit precision, our result is between 9.7 and 9.8.			
Taylor 4.18				
	STDEV=10			
	Uncertainty=STDEV/√N		N	
	3		11.11111111	
	0.5		400	
	For an uncertainty of 3, N must be a whole number. 11.11 rounds to 11, so this was accepted as a correct answer. However, 11.11 is larger than 11, so 12 was also accepted as a correct answer.			
Taylor 4.20				
	m	T	k	
	0.513	1.24	13.17143211	
	0.581	1.33	12.96677137	
	0.634	1.36	13.53226345	
	0.691	1.44	13.15564259	
	0.752	1.50	13.19454217	
	0.834	1.59	13.02359268	
	0.901	1.65	13.06519529	
	0.950	1.69	13.13134462	
			mean	
			13.15509804	
			std	

			0.171332595	
			sdom	
			0.06057522	
	K=13.16 ± 0.06 N/m			