

Date	SLOS: Student will be able to...	Materials	Content	Evaluation	Homework
Linear regression					
Sat 11/15/08			Course introduction. Wound up covering, of all things, breadfruit distribution due to some students currently being taught the FOIL method.	On homework turned in the following Saturday, roughly half of the students could multiply $(x + a)(x^2 + 2ax + a^2)$	$(x + a)(x^2 + 2ax + a^2)$

<p>Sat 11/22/08</p>	<p>Plot (x, y) data on a graph.</p>	<p>tennis balls, measuring wheel, stopwatch, chalk</p>	<p>A ball will be rolled. The time as the ball crosses fixed distances will be recorded. Coordinates and plotting on an x-y graph (x, y) coordinate format use of two notebook sheets to create graph paper x-axis, y-axis even spacing of tics even differential of tics plotting data drawing a best fit line (not yet done)</p> <p><i>The GPS was used to mark out 5 m segments worth of 25 m of road. The ball was rolled once and times were recorded using Timex lap timer. Returned to class to explain even axes, notebook paper graphs, and started graphing. Those in the class who had done xy graphing had only seen coordinate notation and had not worked from a table. Finishing the graph was assigned as homework.</i></p>	<p>Follow-up questions, seat work, homework</p>	<p>Ball roll was to be graphed using evenly spaced scales. Recommendation was that notebook paper turned by used.</p>
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<p>Sat 11/29/08</p>	<p>Determine the slope and y-intercept from (x, y) data.</p>	<p>Determine whether students are a) allowed to use calculators b) have calculators</p>	<p>rise and run Calculating slope from rise and run on a graph reading slope from the graph Formula of slope from $m=(y_2-y_1)/(x_2-x_1)$ reading the y-intercept from the graph</p> <p><i>Summer 08 notes: Went well and required period to get everyone on board with notation and calculations. Homework was the 120 m jog times I did the day earlier.</i></p> <p><i>Predictions were also tackled, the class had seen rise, run, slope, and forms before.</i></p>	<p>Follow-up questions, seat work, homework</p>	<p>Same to be performed on alternate data</p>
<p>Sat 12/6/08</p>	<p>Find the slope-intercept form from a best fit line on a graph. Make predictions based on the equation of the line, both of y given x and of x given y.</p>		<p>Writing the slope-intercept form of the equation, use of point-slope form $(y-y_1)=m(x-x_1)$ resolving slope-intercept form predictions</p>	<p>Follow-up questions, seat work, homework. <i>u82: Students knew linear with intercept zero, add an intercept and the PNI students were having problems.</i></p>	<p>Based on alternate data</p>

Sat 12/13/08		Balls, meter sticks	Reinforce ability to move from (x, y) data to a best fit line to a linear equation for the data and on to predictions using a ball and measuring the drop and bounce height. There is a probability that this will either have to be a third linear example or the quadratic work will advance to here.	Follow-up questions, seat work, homework	Based on alternate data
Sat 12/20/08				Test	
Sat 12/27/08	Solstice holidays				
Sat 1/3/09	05 January: high schools resume classes				
Sat 1/10/09	Open question and answer preparation with focus on high school second quarter finals				
Tue 1/13/09	Second quarter finals at PICS				
Sat 1/17/09			Review December test, recover lost memories		
Accelerated motion: the world of parabolas and quadratic equations. Why ARE we factoring anyway?					
Sat 1/24/09	Measure accelerated motion of a ball on a planar surface Plot non-linear data plot and graph a parabola	Ball, timer, measuring wheel	Rolling a ball down an incline will generate accelerated motion data. Plotting the data should result in a parabolic curve. Motion will be of the form: $y = ax^2$	Follow-up questions, seat work, homework	Alternate data will be provided for students to plot.
Sat 1/31/09	Find the coefficient of a simple quadratic		Replot graphing against x^2 to obtain a line, determining value of "a" from the slope of the line. <i>Suggestion: "ball" park a off of two point on the quadratic. Work with basic quadratic for now.</i>	Follow-up questions	

Sat 2/7/09				Test	
Mon 2/9/09	Secondary championship week				
Sat 2/14/09			Test review. Ball arc exercise and the parabola.		<i>Rolled a marble in class, ensuring that a y-intercept would occur.</i>
Sat 2/21/09			Factors lead to solutions. Solutions to factors.		
Mon 2/23/09	PDS Guam				
Thu 2/26/09	TRIO day. 23-28 TRIO championship week.				
Sat 2/28/09			Tentative tackle of completing the square to get at solutions and factors?		
Sun 3/1/09	WESTOP Arizona				
Beyond this point syllabus remains tentative as of late November. This syllabus is being constructed "early days" and I expect to have to adjust to meet the specific needs of the students in their courses at the high schools and to address specific deficiencies. I will					
Statistics (tentative)					
Sat 3/7/09	Calculate the min, max, range, mode, median, mean for ten ball bounces		Introduction to statistical measures: mode, median, mean, range.		Given data, determine the min, max, range, mode, median, and mean for the data.
Sat 3/14/09	Calculate the min, max, range, mode, median, and mean for the gym seat counts	None	Calculate values for gym. Discuss what is the "right" number. Reinforce basic statistical concepts. Counting or measuring leads inevitably to statistical uncertainties. Standard deviation as the average distance from the mean. Possible introduction of base five in preparation for next week.	<i>With students pretty much knowing stats summer 2008, maybe move more base material into end of week 1.</i>	Summer 2008 I gave the students a worksheet with all seat counts for all terms.

Sat 3/21/09	Predict the next number in a sequence		Introduce number sequences and patterns including even, odd, squares, cubes. Binomial expansion/breadfruit distribution, Pythagoras, powers of two. Ambiguous series.		Given in class.
Wed 3/25/09	Third quarter finals at PICS through the 26th. 27 Student holiday and PTA PICS.				
Sat 3/28/09	Calculate ratios based on measurements.		Pigonacci series. Fibonacci ratio. Ratio spans in the sequence. Fibonacci in Pythagoras		
Tue 3/31/09	Rahn en Tiahk				
Sat 4/4/09			Fibonacci factoring. Greatest common factors. Least common multiples		
Sat 4/4/09	Kosrae college visit				
Sat 4/11/09	Easter break				
Sat 4/18/09			Fibobelly ratios. Male and female means.		
Sat 4/25/09			TBD		
Sat 5/2/09			TBD		
Sat 5/9/09			TBD		
Sat 5/16/09			TBD		
Sat 5/23/09				Finals	