

## IB Math

## Project

The project for IB Math AI (SL) is to create a **flip card review**. You must provide the index cards and the ring or clip to bind your cards. You will research each topic and provide the information listed. Cards should include: relevant definitions used, formulas used, sample problems complete with work. Any cards which do not include a solution and supporting work will receive ZERO credit. If you have question, please ask. Do not wait until the last minute. Don't use MORE or FEWER cards than requested.

PLEASE TURN IN THIS PAGE WITH YOUR PROJECT TO SPEED UP THE GRADING PROCESS.

### Topics and Units:

<b>Unit 1: Numbers and Algebra</b>			
1.	Rounding and Significant Figures	Provide 4 example problems where you will need to round and demonstrate the use of significant figures. Provide an explanation of what it means to use significant figures.	1 card
2.	Geometric Sequencing	Provide 2 example problems using this concept. Provide an explanation and/or definition.	1 card
3.	Compound Interest and Depreciation	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
4.	Loans and Amortization	Provide 1 example problems using this concept. Provide an explanation and/or definition.	1 card
			/10
<b>Unit 2: Functions</b>			
1.	Forms of Linear Lines	Provide 2 example problems using this concept. Provide an explanation and/or definition.	1 cards
2.	Gradients and Intercepts of Linear Lines	Provide 2 example problems using this concept. Provide an explanation and/or definition. Sketch a graph on the notecard to show the gradient and intercept(s).	2 cards
3.	Perpendicular Bisectors	Provide 2 example problems using this concept. Provide an explanation and/or definition. Sketch a graph on the notecard to show the gradient and intercept(s).	2 cards
4.	Plotting Functions and Using nSolve in Calculator	Provide a description of inputting functions into calculator and how to use the number solver function.	1 card
			/12

<b>Unit 3: Geometry and Trigonometry</b>			
1.	Pythagorean Theorem	Provide 2 example problems using this concept. Provide an explanation and/or definition.	1 card
2.	Right Angle Trig (sin/cos/tan)	Provide 4 example problems using this concept. Provide an explanation and/or definition.	2 cards
3.	Sine and Cosine Rules, Area of Triangle	Provide 3 example problems using this concept. Provide an explanation and/or definition.	3 cards

4.	Length of Arc, Area of Sector	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
5.	Varonoi Diagrams	Provide 1 example problems using this concept. Provide an explanation and/or definition. Sketch a picture with your explanation.	1 card
			<b>/18</b>

<b>Unit 4: Statistics and Probability</b>			
1.	Mean, Median, Mode	Provide 2 example problems using this concept. Provide an explanation and/or definition.	1 card
2.	Quartiles, IQR, Box and Whisker	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
3.	Independent and Dependent Variables, Scatter Plots	Provide 3 example problems using this concept. Provide an explanation and/or definition. Sketch a scatter plot when you write the description.	2 cards
4.	Correlation; Pearson's and Spearman's	Provide 2 example problems using each of these concepts. Provide an explanation and/or definition. Describe the difference between Pearson's and Spearman's correlation.	2 cards
5.	Line of Regression	Provide 1 example problems using this concept. Provide an explanation and/or definition. Sketch a graph with a line of regression shown.	1 card
6.	Tree Diagrams	Provide 1 example problems using this concept. Provide an explanation and/or definition. Include a sketch of a tree diagram on your notecard.	1 card
7.	Venn Diagrams	Provide 2 example problems using this concept. Provide an explanation and/or definition. Include a sketch of a venn diagram on your notecard.	2 cards
8.	Probability Distribution	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
9.	Binomial Distribution	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
10.	Normal Distribution	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
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<b>Unit 5: Calculus</b>
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1.	Differentiation	Provide 1 example problems using this concept. Provide an explanation and/or definition.	1 card
2.	Gradients of Tangents and Normals	Provide 2 example problems using this concept. Provide an explanation and/or definition. Sketch a graph on the notecard.	2 cards
3.	Turning Points (Max/Min, Optimization)	Provide 3 example problems using this concept (min, max and optimization). Provide an explanation and/or definition.	2 cards
4.	Overview of Integral Calculus	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
5.	Basics of Antidifferentiation	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
6.	Finding Areas Under Curves	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
7.	Trapezoidal Rule	Provide 2 example problems using this concept. Provide an explanation and/or definition.	2 cards
			/26

**\*There is a 10 point deduction off of the raw score if I have to spend time putting your cards in order.**

**Your Grade on this assignment:** \_\_\_\_\_/100      **Number of complete Cards**

\_\_\_\_\_      **(-10 for putting cards in order)**

**Final Assignment Grade** \_\_\_\_\_/100

**\*There are several resources on the web that will assist you in your research. Hint: when searching, use the key terms “IB Math” in your search (ex. Binomial Distribution IB Math).**