Lecture 1: Quiz

Name:

Electronically, an minimal email to knill@math.harvard.edu can just contain something like:

1:A, 2:1, 3: Einstein, 4: 1, 5: 4, 6: A, 7: A, 8: A, 9: A

Other possibilities are to "attach an annotated PDF", or "print, write on paper and send a scan or photo". The best is to come to class and get it done right away.

Problem 1

Two of the following 9 problem areas do **not** belong to the class of 7 liberal arts and sciences. Which ones?

A	Algebra
B	Arithmetic
C	Astronomy

D	Rhetoric
E	Logic
F	Grammar

G	Geometry
H	Physics
I	Music

Problem 2

At the end, we have worked today on drawing Barycentric refinements. This was a drawing game, where we add new points at the faces and edges and connected the new face points with neighboring vertex or edges points. If we start with a single triangle, how many triangles are there present including the triangle itself after doing one refinement? There is one correct answer.

1		3		7		9	

Problem 3

We have seen several definitions of what Mathematics is. Who said that "there is a creative force in Mathematics"? There is one correct answer.

Albert Einstein		Claire Voisin		Mario Livio		Vladimir Arnold	

Problem 4

How many ancient roots of Mathematics did we count in the lecture? There is one correct answer.

1		3		8		12	

Problem 5

How many liberal arts and sciences are there? There is one correct answer

4		7		10		12	

Problem 6

We looked briefly at the **amusical sequence** which is a Collatz type problem with an amazing property. Which property does this arithmetic problem have?

A	It is true but we can not prove it	
B	It is false but we can not find a counter example	
C	It is undecidable	

Problem 7

One of the following statements definitely does not apply. Which one?

A	Maths has ties with arts		D	Math needs to be done, not talked about	
B	Math is the science of structure		E	Math can influence history	
C	Historical difficulties matter today		F	Math has reached its final form	

Problem 8

At the very beginning (or in the syllabus) we mentioned a teaching methodology used in this course. Which one. There is one answer.

A	Improvisation		D	Random method	
B	Systematic Method		E	Encyclopedic method	
C	Case Method		F	No method	

Problem 9

What is the topic of the final "Math Mojo" project?

A	10 best Math hacks	
B	10 hottest Mathematicians	
C	10 best ideas or concepts in math	
D	10 most brutal Math battles	