E-320: Teaching Math with a Historical Perspective **Oliver Knill, 2012**

Lecture 1: Quiz

Name:

Several answers are possible for A,B,C, ..., exactly one choice for a,b,c,...

Problem 1

Which of the following knowledge areas belong to the liberal arts and sciences?

A	Arithmetic
B	Geometry
C	Number theory
D	Astronomy

E	Rhetorics
F	Logic
G	Probability
H	Grammar

I	Analysis
J	Music
K	Physics
L	Computer Science

Problem 2

Which mathematician has found formulas which top any popular "beauty" ranking

a	Thales	
b	Pythagoras	
c	Laplace	
d	Euler	

f	Einstein	
e	Rick Astley	
g	Gauss	
h	Newton	

Problem 3

About when was the Gauss-Bonnet theorem found which is related to the mystery theorem we have looked at?

1648		1748		1848		1948	

Problem 4

How many ancient roots of Mathematics were there:

1		3		8		12	

Problem 5

How many liberal arts and sciences are there?

3		4		7		12	

Problem 6

We have discussed a theorem about trees today. Which of the following assumptions are needed so that the sum of the curvatures is equal to the number of trees?

A	There are no loops		D	Branches can only have length 1	
B	There is only one tree		E	The tree has a base	
C	There are at least 3 leaves		F	There is at least one branch	

Problem 7

The presentation today borrowed from a seminar structure technique used at

Tufts	
MIT	
Harvard	

BU	
Colby	
Wellesley	

BC	
NEU	
Brandeis	

Problem 8

This lecture wanted to make a few points. Which ones?

A	Math is the science of structure		D	Math primarily deals with numbers	
B	Historical difficulties matter today		E	Math has had influence on history	
C	Maths has many ties with arts		F	Math has reached its final form	

Problem 9

Which methodology do we use?

a	Systematic Method	
b	Case Method	
c	Improvisation	

d	Encyclopedic method	
e	Systematic method	
f	Random method	

Problem 10

What is the topic of the final project?

a	Math revolutions	
b	Math revelations	
c	Math improvisations	

d	Math refutations	
e	Math fallacies	
f	Math scandals	