E-320: Teaching Math with a Historical Perspective **Oliver Knill, 2014**

Lecture 3: Quiz

Name:

Problem 1

Who is considered the first known mathematician and philosopher? ☐

Problem 2

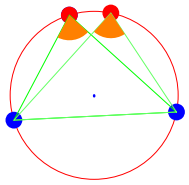
What is Morley's miracle?

A A relation between side lengths of a quadrilateral.	B $a^2+b^2+c^2=d^2$ for a quadrilateral
C The angle tri-sectors in an arbitrary triangle intersect in a equilateral triangle.	D In a right triangle, h intersects hypotenuse c in segments a, b satisfying $ab=h^2$.

Problem 3

Thales theorem works also if the angle is 90 degree angle. Then:

The center of the circle is on the hypothenuse.	A
The center of the circle is on the centroid of the triangle.	B
The triangle is an isosceles triangle	C



Problem 4

What is the Fasskreis theorem?

A	$r^2=1-uv$ relates radius r and segments u, v in a circle.	B	A relation $c^2=a^2+b^2$ between the lengths of triangle.
C	Three angle bisectors intersect.	D	Angle trisectors define an equilateral triangle.

Problem 5

Match the birth places:

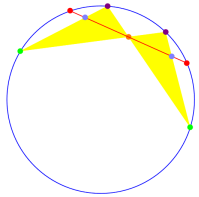
Euclid of	
Thales of	
Hippocrates of	
Pythagoras of	

A	Samos
B	Miletus
C	Chios
D	Alexandria

Problem 6

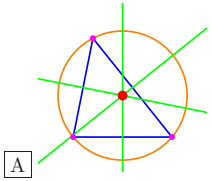
According Ruelle's book, the Butterfly theorem is

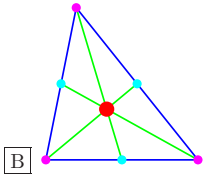
A trivial	
B a Math Olympiad problem	
C murderous	
D a Putnam problem	

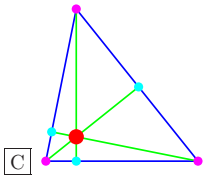


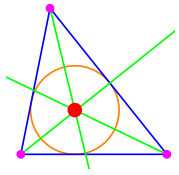
Problem 7 (2 points)

Match four miracles are basic results in geometry:



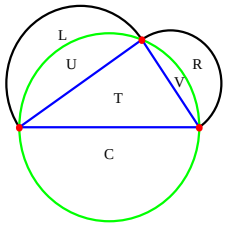






The intersection of lines through mid points	
The intersection of angular bisectors	
The intersection of perpend. line bisectors	
The intersection of altitudes	

Problem 8 (2 points)



Which formula appeared in the proof of Hippocrates theorem?

$U+V=T$	A
$L+R=T$	B
$L+R=U+V$	C
$\|U-V\|=T$	D
$\|L-R\|=T$	E