Lecture 3: Quiz

Name:

Problem 1

What is the butterfly theorem ?

A The flap of a butterfly's wings in Brazil can set off a tornado in Texas."	B The wings of the butterfly region defined by three cords passing through a common point are congruent"
C Two chords PQ, RS through the center M of a given chord AB in a circle have the property that PR, QS cut AB in equal distance from M.	D The areas of the two butterfly regions defined by three cords through M are the same, if M is in the middle of one chord.

Problem 2

Assume the triangle in Thales theorem is a right angle triangle. 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
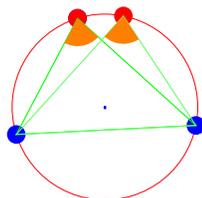
Problem 3

What is Morley's miracle?

|	
A The sum of the angles of a triangle is π.	B Che circumscribed circle of the intersection of 3 unit circles has radius 1.
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 4

Match birth places:

Thales of	
Hippocrates of	
Euclid of	
Pythagoras of	

A	Samos
B	Miletus
C	Chios
D	Alexandria

Problem 5

According to David Ruelle's book, the Butterfly theorem is

A	trivial	
B	murdorous	
C	found by Thales	
D	a Putnam problem	
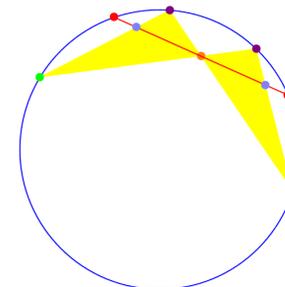
Problem 6

Match the situations as good as you can. We called this the four miracles.

A   B

C   D
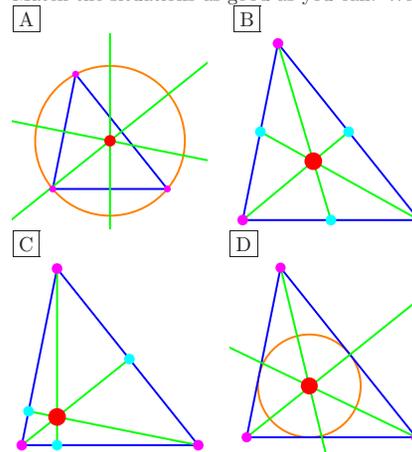
The intersection of lines through mid points	
The intersection of angular bi-sectors	
The intersection of line bisec-tors	
The intersection of altitudes	

Problem 7
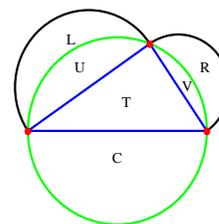
Which formula appeared in the proof of Hippocrates theorem?

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