**Lecture 3: Quiz**

Name: 

**Problem 1**

In one of the first slides, we defined geometry as the science of "Shape", "Size" and ....... What is the third point.

**Problem 2**

Thales was known to be the first mathematician and philosopher. When did he live? 

a) 600BC  

b) 400BC  

c) 200BC  

d) 200AC

**Problem 3**

During the lecture, I mentioned whether Thales has ever met Pythagoras.

600BC 

A) They met  

B) They did not meet

**Problem 4**

Match the birth places:

<table>
<thead>
<tr>
<th>Pythagoras of</th>
<th>A) Samos</th>
<th>B) Miletus</th>
<th>C) Chios</th>
<th>D) Alexandria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thales of</td>
<td></td>
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<tr>
<td>Euclid of</td>
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<tr>
<td>Hippocrates of</td>
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**Problem 5**

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 6**
Thales theorem works also if the angle is 90 degree angle. Then:

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

### Problem 7

Two of the following problems are not solvable with ruler and compass:

a) Angle doubling  
b) Length trisection  
c) Angle trisection  
d) Quadrature of the circle

### Problem 8

Match four miracles are basic results in geometry:

A. The intersection of lines through mid points
B. The intersection of angular bisectors
C. The intersection of perpend. line bisectors
D. The intersection of altitudes

### Problem 9

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 |