

## Lecture 9: Quiz

Name:

### Problem 1

Which problem is the first problem in graph theory?

- The Poincare conjecture
- The Koenigsberg bridge problem
- Finding the Euler characteristic of a polyhedron
- The Hamilton path problem.

### Problem 2

Which of the following letters are topologically equivalent to the letter  $P$ ?

- O
- A
- B
- S

### Problem 3

How many regular Platonic solids are there in three dimensions?

- 3
- 4
- 5
- 12

### Problem 4

Which formula is called Euler's Gem?

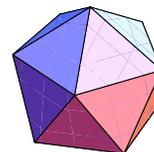
- $E - V + F = 0$
- $E - V + F = 2$
- $E - F + V = 2$
- $V - E + F = 2$

### Problem 5

Which mathematician first established how many Platonic solids there are in three dimensions?

- Erasthoteles
- Theaetetus
- Plato
- Euler

### Problem 6



Which Platonic solid is displayed in the picture?

- Tetrahedron
- Cube
- Octahedron
- Icosahedron

### Problem 7

How many different semiregular nonprismatic polyhedra are there in space?

- 5
- 12
- 24
- 13

### Problem 8

Which of the following surfaces are orientable?

- The torus
- Sphere
- The cone
- Klein bottle

### Problem 9

The analogue of polyhedra in higher dimensions are called polytopes. How many regular polyhedra are there in 4 dimensions?

- 3
- 4
- 5
- 6