5 group worksheet in discrete math:

Edited at 4am 6 January 2017.

1. Is Hamiltonian cycle possible on the Kongsberg Bridges? Why?

2. Explain the Four Color Theorem.

https://en.wikipedia.org/wiki/Four\_color\_theorem

3. Solve the Chinese postman problem.

https://en.wikipedia.org/wiki/Route\_inspection\_problem

4. Reduce the computational complexity.

5. Explain the Fast Fourier Transform.

https://en.wikipedia.org/wiki/Fast\_Fourier\_transform

6. What is a Dual graph?

https://en.wikipedia.org/wiki/Dual\_graph

7. Solve the problems from the textbooks.

8. Explain the Topology.

https://en.wikipedia.org/wiki/Topology

9. Calculate hash function for your group number.

http://www.fileformat.info/tool/hash.htm

Zimmermann:

7. Solve Zimmermann Polygonal Areas problem.

http://azspcs.com/Contest/PolygonalAreas

Submit as many different areas solutions as possible in the form (1,2), (2,6), (3,4), (4,5), (6,3), (5,1) going clockwise or anti-clockwise along the border of the polygon for 11, 17, 23, 29, 37, 47, 59, 71, 83, 97, 113, 131, 149, 167, 191, 223, 257, 293, 331, 373, 419, 467, 521. For each problem we need maximum and minimum areas polygons. Do it only if you like it.

http://discrete4math.weebly.com/uploads/2/5/3/9/25393482/11polygonal11areas11zimmermann11.txt

8. Is it easier to find the smallest or the largest areas for each of these cases? Why?

5: [1.5, 7.5]

7: [5, 18.5]

11: [41.5, 58.5]

17: [113.5, 127.5]

23: [239, 240.5]

37: [641, 641]

These numbers are correct at 5pm Jakarta time 5 January 2017.

These numbers may change later. Be prepared for the changes.

You must find the method working for any numbers.

http://azspcs.com/Contest/PolygonalAreas

Deadline: 7 January 2017.