1 group task in 2 calculus:

Edited at 10am 27.3.2017.

Orthogonal polynomials:

1. What are the orthogonal polynomials?

https://en.wikipedia.org/wiki/Orthogonal\_polynomials

2. Find the *10-th* orthogonal polynomials.

Series:

3. Explain series.

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

Applications of integrals:

4. How do we calculate the curve length?

5. Explain the revolutionary volume and surface.

6. Prove the equation for the surface area of a cone.

7. Prove the equation for the volume of a cone.

8. What is the moment of inertia?

https://en.wikipedia.org/wiki/Moment\_of\_inertia

Numerical integration:

9. List and explain some of the unsolvable on paper integrals.

10. Calculate the unsolvable integrals on the computer.

Linearity vs. non-linearity:

11. Explain the linearity concept.

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

12. What is linear combination?

https://en.wikipedia.org/wiki/Linear\_combination

13. Explain linear independence.

https://en.wikipedia.org/wiki/Linear\_independence

14. What is non-linearity?

https://en.wikipedia.org/wiki/Nonlinear\_system

Deadline: 31.3.2017 Friday.