E individual calculus task:

Edited at 7am 17.4.2017.

s is your student number. k = s mod 10000. T = s mod 100. m = s mod 35. a = s mod 25.

L = s mod 10. $d\_{2}=\frac{T-L}{10}$. e = s mod 8. m7 = s mod 7. m6 = s mod 6. m4 = s mod 4. m3 = s mod 3.

m2 = s mod 2.

1. Optimization:

Solve optimization problem for the cuboid of surface area = T square meters. Maximize the volume.

Complex numbers:

2. Calculate the expressions of the complex numbers.

2.1. Calculate: a. i-a b. i-L c. im d. i1/(L+2) e. $\sqrt[L+2]{1}$

f. a – mi + Li – T g. (a – mi)(Ti – L) h. (m – ai)/(Li – T) j. (k – ni)L

p. (a – mi)1/(L+2) q. in u. ik w. iL z. ia

2.2. Calculate.

a. $(m – Ti)^{m\_{3}+3}$

b. $\frac{T+im}{a-Li}$

c. $\sqrt[m\_{3}+3]{T+mi}$

d. (T+im)(a-Li)

e. (T+im)+(a-Li)

f. (T+im)-(a-Li)

3. Line, surface and volume integrals:

m3 = 0: Explain line integral.

m3 = 1: What is surface integral?

m3 = 2: Explain volume integral.

Design:

4. Use your knowledge for design.

Project:

5. Improve your project.

Write the proposal.

Prepare to present your project to a native English speaking doctor of science.

Deadline: 22.4.2017 Saturday.