

Week: December 14 – December 20, 2020

Topic: **Improper integral and applications**

The below provided instructions should guide you through studying the topic. For additional explanation, clarification and extra material contact the Lecture/Tutorial teacher by email or the MS-Teams platform for live online consultation (see webpage for the link).

https://mat.nipax.cz/mathematics:mathematics_i

1) Read and learn the explanation from the textbook (**pages 127-134**).

Scanned pages can be found on the web page.

https://mat.nipax.cz/media/mathematics:ma1_en_textbook_part_iii.pdf

Additional material and alternative explanation with many figures and exercises can be found in (free) online available textbooks

<http://www.math.wisc.edu/~keisler/calc.html>

http://www.math.wisc.edu/~keisler/chapter_4.pdf

<https://openstax.org/details/books/calculus-volume-1>

namely chapter 5 <https://openstax.org/books/calculus-volume-1/pages/5-introduction>

2) As a training solve (at least) the specified exercises from *Selected problems from the textbook Problems in Mathematics I*

https://mat.nipax.cz/media/m1_selected_problems.pdf

Improper integrals: **2050, 2054, 2057, 2063**

Applications of integrals: **2067, 2070, 2075, 2077**

See the *plan of tutorials* for full list of recommended exercises

https://mat.nipax.cz/media/mathematics:ma1_2020_tutorials_info.pdf

3) Try to solve the corresponding exercises and answer the questions from older exams.

https://mat.nipax.cz/media/m1_probl_from_prev_exams.pdf

This should be your check point to verify if you understood the chapter sufficiently to pass the exam.

In case you want to verify your results and answers, or need additional explanation, consultation or study material, contact your teacher (tutorial or lecture).

4) As a long term homework, to be delivered by parts (by chapters) according to deadlines specified by the tutorial teacher, solve the corresponding exercises from

https://mat.nipax.cz/media/mathematics:ma1_exam_1_en.pdf

https://mat.nipax.cz/media/mathematics:ma1_exam_2_en.pdf

https://mat.nipax.cz/media/mathematics:ma1_exam_3_en.pdf

**DEADLINE: January 4, 2021 for the third part of the homework
(exercises 5, 6 from the Exam 1, Exam 2 and Exam 3).**

Time schedule for the end of semester

- January 4, 2021 – Delivery of the third part of the homework
- January 8, 2021 – Delivery of last corrections of the last homework
- January 10, 2021 – Assessment final decision

Optional open video consultations/seminars (on topics of your choice from Mathematics I)

- January 4, 2021 – 12:30 – 14:00 open consultation by T. Bodnár
- January 5, 2021 – 16:00 – 17:30 open consultation by H. Řezníček