

Week: November 16 – November 22, 2020

## Topic: **Derivatives and functions**

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](https://mat.nipax.cz/mathematics:mathematics_i)

1) Read and learn the explanation from the textbook (**pages 74-81**).

Scanned pages can be found on the web page.

[https://mat.nipax.cz/media/mathematics:ma1\\_en\\_textbook\\_part\\_ii.pdf](https://mat.nipax.cz/media/mathematics:ma1_en_textbook_part_ii.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\\_2a.pdf](http://www.math.wisc.edu/~keisler/chapter_2a.pdf)

[http://www.math.wisc.edu/~keisler/chapter\\_3e.pdf](http://www.math.wisc.edu/~keisler/chapter_3e.pdf)

[http://www.math.wisc.edu/~keisler/chapter\\_5d.pdf](http://www.math.wisc.edu/~keisler/chapter_5d.pdf)

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

namely chapter 3 <https://openstax.org/books/calculus-volume-1/pages/3-introduction>

and chapter 4 <https://openstax.org/books/calculus-volume-1/pages/4-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](https://mat.nipax.cz/media/m1_selected_problems.pdf)

Function behavior: **1256, 1262, 1268, 1270**

Graphs and properties of functions: **1292, 1293, 1295, 1321,**

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

[https://mat.nipax.cz/media/mathematics:ma1\\_2020\\_tutorials\\_info.pdf](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](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_1_en.pdf)

[https://mat.nipax.cz/media/mathematics:ma1\\_exam\\_2\\_en.pdf](https://mat.nipax.cz/media/mathematics:ma1_exam_2_en.pdf)

[https://mat.nipax.cz/media/mathematics:ma1\\_exam\\_3\\_en.pdf](https://mat.nipax.cz/media/mathematics:ma1_exam_3_en.pdf)