

Barcelona GSE  
EPP-COMP Brush-up courses 2020-21  
**Problem Set 4**

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15 September, 2020

## INSTRUCTIONS

Below you will find the collection of exercises meant to refresh the basic concepts of calculus such as limits, derivatives, integrals, power series, etc. Most of exercises provided are at the level one would expect for a graduate student. The importance of these concepts will be revealed to you during the microeconomic, macroeconomic and econometric courses that you will take. The problems that you will encounter here have been picked up from the [Martin J. Osborne's](#) webpage.

The problem set will be due to 19 September and should be uploaded to the corporate platform by noon.

For handing in the problem set, **YOU CAN:**

- **SCAN** your solutions and send them to me
- Print or Insert images in your solutions

**YOU CANNOT:**

- have an illegible handwriting if you are to give a hard copy
- send photos of you solutions

# 1 INTERIOR OPTIMA

Selected problems of chapters 5.2 and 5.3, links in the numeration.

- [5.2](#): 2, 3, 4, 6 and 8
- [5.3](#): 6, 7 and 9

# 2 EQUALITY CONSTRAINS

Selected problems of chapters 6.1 and 6.3, links in the numeration.

- [6.1.1](#): 1 and 4
- [6.1.2](#): 1 and 2
- [6.1.3](#): Exercise 1, a follow up from the previous 6.1.1. Exercise 1
- [6.2](#): 1 and 2
- [6.3](#): 3

# 3 INEQUALITY CONSTRAINS

Selected problems of chapters 7.3 and 7.4, links in the numeration.

- [7.3](#): 2
- [7.4](#): 1, 7, 8.a,d,e