%%%%%%%%%%%%%%% Theorems to prove
%%
%%%% The number after the '%' sign are the numbers %%
%%%% of the respective theorems in the lecture notes. %%
%%%

%%%%%%%%%%%%%%% Chapter 4
characterization of closed sets % 4.4
Heine theorem on continuity with respect to a set % 4.7
characterization of compact subsets of $\mathbf{R}^n$ (for $n = 2$) % 4.10
on attaining of extrema % 4.11
weak Langrange theorem (for $n = 2$) % 4.13
on derivative of a composed function % 4.16 (the case $s = 1$ and $r = 2$)
implicit function theorem % 4.18 (just the part of the proof presented at the lecture)
Lagrange multiplier theorem % 4.20
%% 8 proofs from Chapter 4

%%%%%%%%%%%%%%% Chapter 5
on transformation to the row-echelon form % 5.5(i)
on transformation and rank % 5.5(iii)
on transformation and matrix multiplication % 5.6
on determinant and elementary row transformation % 5.11 (including 5.10) - the proof of 5.11(i) not required
characterization of invertible matrices % 5.8 (including 5.7) and 5.13
on determinant of triangular matrices % 5.9 (including the remark on matrices with zero row or column)
on linear systems with square matrix % 5.17
Cramer's rule % 5.18
on reprezentation of linear mappings % 5.20
on linear mapings from $\mathbf{R}^n$ to $\mathbf{R}^n$ % 5.22
%%% 10 proofs from Chapter 5

%%%%%%%%%% Chapter 6
on differentiating indefinite integral % 6.6
Newton-Leibniz formula for generalized Riemann integral % 6.14
integration by parts for definite integral % 6.15
substitution for definite integral % 6.16
%%% 4 proofs from Chapter 6

%%%%%%%%%% Chapter 7
comparison test % 7.2
on convergence and absolute convergence % 7.3
limit test % 7.4
Cauchy test % 7.5
on series of the form $\sum 1/n^\alpha$ % 7.7
%%% 5 proofs from Chapter 7
%