Assignment 6

Turn in starred problems Wednesday, March 8, at the beginning of the period.
See the remarks below for hints or modifications of several of these problems.

Exercises from Abbott, *Understanding Analysis*:

Section 3.2: 2, 3, 4*, 6*, 7, 8, 10, 12*

Section 3.3: 1, 2 and 11, 4*, 5, 6*, 10

Optional extra credit problem; turn in in lecture Thursday 3/09: Abbott 3.3.7.
For an extra credit problem, please to not consult any sources or work with other students.
See Comment below.

Comments, hints and instructions:

3.2.7: The goal of this problem is a proof of Theorem 3.2.12, which we proved in class.
However, part (a) is of some independent interest.

3.3.6: Hint: in all cases, the statements are true with "compact" but not with "closed".

3.3.7: It seems to me that it may be difficult to get a really clear and convincing explnation
in (a). Please do your best: if I find your prose too impenetrable, I won't read it.

3.3.10: In class we proved

open-cover compact $\Rightarrow$ sequentially compact $\Rightarrow$ closed and bounded $\Rightarrow$ open-cover compact;

for the last step we essentially followed Exercise 3.3.9. Exercise 3.3.10 sketches an alternate
proof of this step.