Classification theory

Exercise 2

1. Prove Lemma 8.12 (ii) from the notes of model theory.

2. Exercise 8.13 from the notes of model theory. Here $\kappa^{<\kappa} = \kappa$ means that κ is infinite and for all cardinals $\mu < \kappa$, $|\kappa^{\mu}| \leq \kappa$.

3. Exercise 1.2 (iii).

4. Exercise 1.9.

5. Exercise 1.11.

Extra exercise: Suppose T is complete, $\mathcal{A} \models T$ and $A \subseteq \mathcal{A}$. Show that there is $A \subseteq \mathcal{B} \preceq \mathcal{A}$ such that $|\mathcal{B}| \leq |T| + |A|$, where $|T|$ is defined as in the lecture notes i.e. as the number of non-equivalent formulas.