(1) Many words can be thought of as related by a subset relation e.g. dog and mammal. The set of dogs is a subset of the set of mammals. Such words are said to related by the hyponymy relation with dog being a hyponym of mammal. In many cases, hyponymy between words relates to entailment between sentences in the following way:
If we have a sentence \[ \ldots \alpha \ldots \], and \( \beta \) is a hyponym of \( \alpha \), then the sentence \[ \ldots \beta \ldots \] entails (is a hyponym of) the sentence \[ \ldots \alpha \ldots \]. Example: chihuahua is a hyponym of dog; hence Halle owns a chihuahua entails Halle owns a dog.
Find an example in which this rule does not hold.

(2) The principle of compositionality states that the meaning of a complex expression can be derived from the meanings of its syntactic parts. Discuss why this is a plausible principle for human languages. Are there exceptions to this principle? If you find any, discuss how they may fit into the general picture of a semantic theory that takes the compositionality principle for granted.

(3) Describe the readings of the following ambiguous sentences:
a. Everything doesn’t fit into this container.
b. Ludo saw her duck under the table.
c. The missionaries are too hot to eat.
d. Visiting relatives can be pleasant.
e. They decided to meet on Tuesday.
f. The first book that John said that Tolstoy wrote is on sale.
g. My father tells me to work harder than my boss does.

(4) Identify the assertion, the implicatures, and the presuppositions (if any) of the following sentences.
a. Mary danced, too.
b. It has been five years since I’ve seen John.
c. I haven’t seen John in five years.
d. Only Sally talks to Sam.
e. Even Sally talks to Sam.

(5) Exercise on Page 9 of Heim & Kratzer.