

**Exercise.** A variant of Exercise 2.4.14aef.

§2.4

Let  $A$  be a subset of the real numbers. A number  $b \in \mathbb{R}$  is called an upper bound for the set  $A$  provided that for each element  $x \in A$ , we have  $x \leq b$ .

Hint. Think of *complete the following* as finishing off ... in the statement that was started for you.

**a.** Write this definition in symbolic form by completing the following.

Let  $A \subseteq \mathbb{R}$ . A number  $b$  is called an upper bound for the set  $A$  provided that ...

delete this line and put your answer here

**e.** Complete the following in symbolic form.

Let  $A \subseteq \mathbb{R}$ . A number  $b$  is not an upper bound for the set  $A$  provided that ...

delete this line and put your answer here

**f.** Without using the symbols for quantifiers, complete the following sentence.

Let  $A \subseteq \mathbb{R}$ . A number  $b$  is not an upper bound for the set  $A$  provided that ...

delete this line and put your answer here