

## **SET EXERCISES**

## Why

Here are some exercises on sets.<sup>1</sup>

**Exercise 1.** Let A, B, C denote sets. Show  $((A \cap B) \cup C = A \cap (B \cup C)) \longleftrightarrow (C \subset A)$  Observe that the condition does not involve B.

Exercise 2.

$$A - B = A \cap B'.$$

Exercise 3.

$$A \subset B$$
 if and only if  $A - B = \emptyset$ .

Exercise 4.

$$A - (A - B) = A \cap B.$$

Exercise 5.

$$A \cap (B - C) = (A \cap B) - (A \cap C).$$

Exercise 6.

$$(A \cap B) \subset ((A \cap C) \cup (A \cap C')).$$

Exercise 7.

$$((A \cup C) \cap (B \cup C')) \subset (A \cup B).$$

<sup>&</sup>lt;sup>1</sup>Future editions will give the hypotheses more clearly.

