



## SET EXERCISES

### Why

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

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

**Exercise 2.**

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

**Exercise 3.**

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

**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.**

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

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



