

**Exercise 44**

Sets Find the indicated set if

$$A = \{1, 2, 3, 4, 5, 6, 7\} \quad B = \{2, 4, 6, 8\} \quad C = \{7, 8, 9, 10\}$$

(a)  $A \cup B \cup C$

(b)  $A \cap B \cap C$

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**Solution**

The union of  $A$  and  $B$  and  $C$  ( $A \cup B \cup C$ ) is the combination of elements in all, whereas the intersection of  $A$  and  $B$  and  $C$  ( $A \cap B \cap C$ ) is only the elements they have in common.

$$A \cup B \cup C = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

$$A \cap B \cap C = \{\} = \emptyset$$