

## Sets and operations | Answers

**Task .** You are given two sets  $A$  and  $B$  in a universe  $U$ . Fill in the Venn diagram and determine the sets  $A \cup B$ ,  $A \cap B$ ,  $A - B$ ,  $B - A$ ,  $A'$ ,  $B'$ .

	(a)	(b)
Universe	$U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$	$U = \{1, 2, 3, 4, 5, 6\}$
Set $A$	$A = \{0, 3, 6, 9\}$	$A = \{1, 2\}$
Set $B$	$B = \{2, 4, 6, 8, 10\}$	$B = \{1, 2, 3\}$
Venn Diagram		
Union	$A \cup B = \{0, 2, 3, 4, 6, 8, 9, 10\}$	$A \cup B = \{1, 2, 3\}$
Intersection	$A \cap B = \{6\}$	$A \cap B = \{1, 2\}$
Difference	$A - B = \{0, 3, 9\}$	$A - B = \emptyset$
Difference	$B - A = \{2, 4, 8, 10\}$	$B - A = \{3\}$
Complement	$A' = \{1, 2, 4, 5, 7, 8, 10\}$	$A' = \{3, 4, 5, 6\}$
Complement	$B' = \{0, 1, 3, 5, 7, 9\}$	$B' = \{4, 5, 6\}$