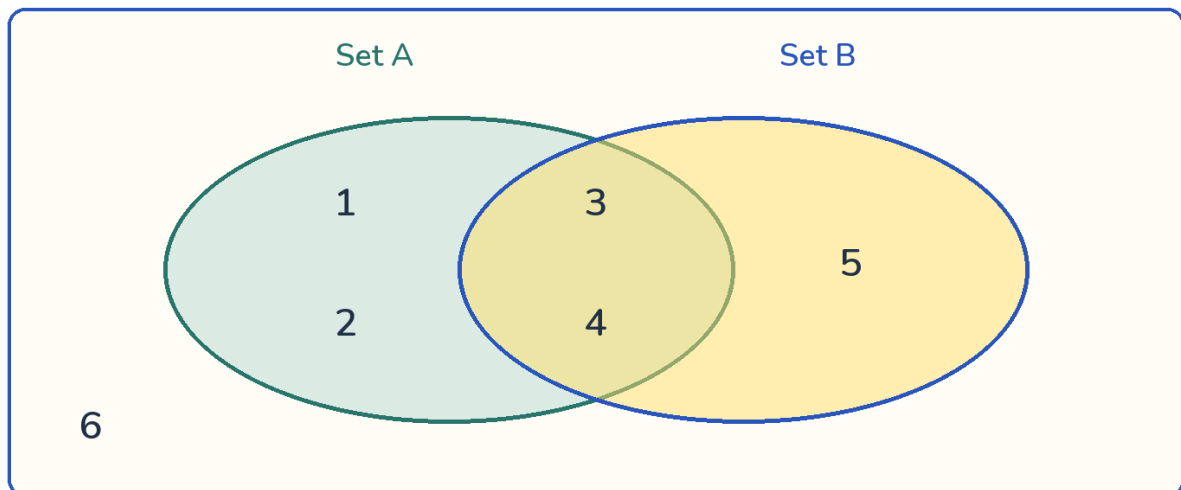


UNIT 01 · PRACTISE · 1–3

Sets, relations and domains

Every element has one place

Universal set $U = \{1, 2, 3, 4, 5, 6\}$



A only: 1, 2 Overlap: 3, 4 B only: 5 Outside both: 6

$A = \{1, 2, 3, 4\}$; $B = \{3, 4, 5\}$. Elements in the overlap belong to both sets. Count them once in the union.

1. If $A = \{1, 3, 5\}$ and $B = \{3, 4\}$, write $A \cup B$, $A \cap B$ and $A - B$. [2 marks]

2. In 40 students, 23 study music, 18 study theatre and 7 study both. How many study at least one? How many neither? [3 marks]

Formative-only practical union/intersection counting under the official annex.

3. $A = \{a, b\}$, $B = \{1, 2, 3\}$. Write $A \times B$ and its cardinality. [2 marks]