

$\Omega$

$A$

$B$

$A \cup B$



A Venn diagram illustrating the union of two sets,  $A$  and  $B$ , within a universal set  $\Omega$ . The universal set  $\Omega$  is represented by the entire white area. Two overlapping, light-gray shaded regions represent the sets  $A$  and  $B$ . The label  $A$  is positioned above the left lobe of the shaded region, and the label  $B$  is positioned above the right lobe. The label  $A \cup B$  is centered within the combined shaded area, representing the union of the two sets.