Formula for the Cardinal Number of the Union of Two Sets

\[ n(A \cup B) = n(A) + n(B) - n(A \cap B) \]

To find the cardinal number in the union of sets A and B, add the number of elements in sets A and B and then subtract the number of elements common to both sets.

Solving Survey Problems

1. Use the survey’s description to define sets and draw a Venn diagram.
2. Use the survey’s results to determine the cardinality for each region in the Venn diagram. Start with the intersection of the sets, the innermost region, and work outward.
3. Use the completed Venn diagram to answer the problem’s questions.