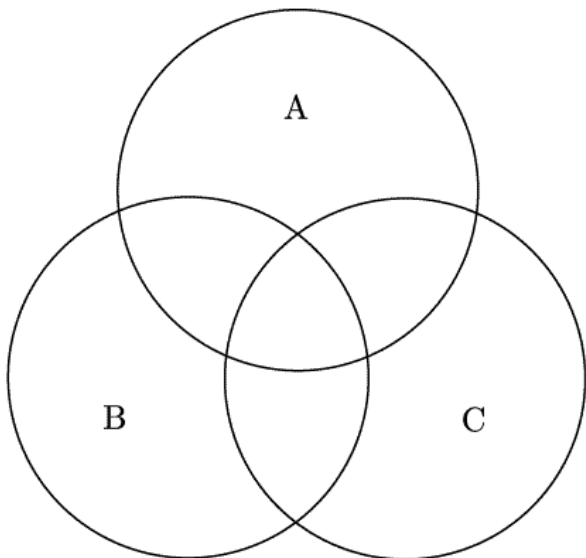


Three survey problems

- The three major grain crops raised in the world are wheat, maize and rice. A survey of 40 countries that raise grain yielded the following results: 18 countries raise wheat; 16 countries raise maize; 12 countries raise rice; 9 countries raise wheat and maize; 3 countries raise maize and rice; 3 countries raise wheat and rice. 2 countries raise all three crops. How many countries raised:
 - none of the three crops?
 - exactly one of the three crops?
 - exactly two of the three crops?
 - wheat and maize, but not rice?
 - maize or rice, but not wheat?
- The results of 50 students showed the following preferences in writing instruments: 16 liked pencils, 18 liked felt tip pens, 24 liked ballpoint pens, 4 liked pencils and felt tip pens, 5 liked felt tip pens and ballpoint pens, 8 liked pencils and ballpoint pens, 3 like all three. Find the number of students that liked:
 - None of the three writing instruments,
 - Pencils and felt tip pens but not ballpoint pens,
 - Only pencils,
 - Only ballpoint pens,
 - Felt tip pens or ballpoint pens.
- A company launching a new toothpaste took a survey to determine how many people preferred wintergreen, peppermint, or cherry flavors of the new toothpaste. One hundred people were questioned. The results were summarized as follows: 44 preferred cherry, 40 preferred wintergreen, 37 preferred peppermint, 16 preferred peppermint and cherry, 15 preferred wintergreen and peppermint, 11 preferred wintergreen and cherry, 4 preferred all three flavors. Find the number of the participants who preferred:
 - none of the new flavors
 - only wintergreen
 - cherry or wintergreen
 - cherry or wintergreen but not peppermint



Answers :

- 7
 - 22
 - 9
 - 7
 - 15
- 6
 - 1
 - 7
 - 14
 - 37
- 17
 - 18
 - 73
 - 46