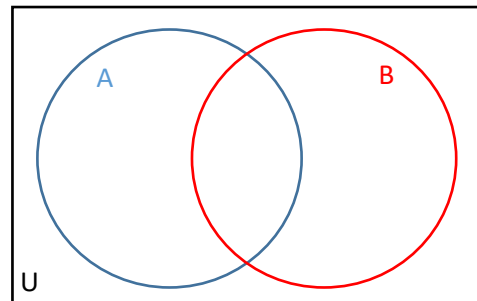


Applying Venn Diagrams to Three Sets (Part 1)

Students will be able to:

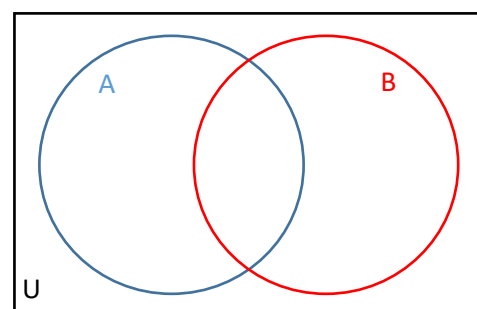
- Construct a Venn diagram to represent the result of a survey
- Solve applied survey problems

Example: In a survey of 67 college students, 35 students say they play sports, 22 say they play a musical instrument, and 10 students say they play sports and a musical instrument. Draw a Venn diagram that represents this survey and then answer the question that follows.



Question: How many people play sports or a musical instrument?

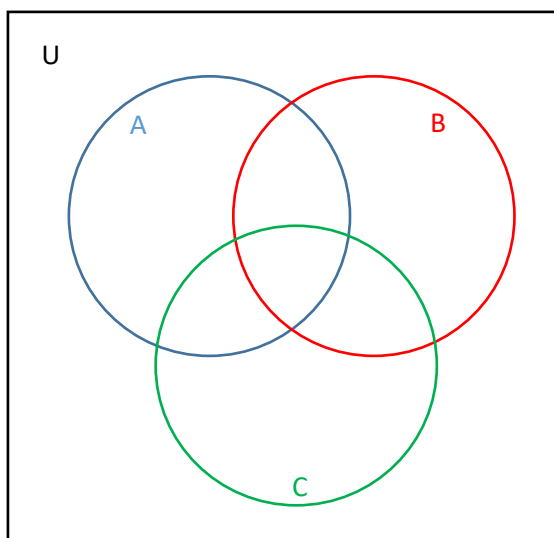
Example: In a survey of 100 college students, 45 students say they work part-time, 60 live on campus, and 32 work part-time and live on campus. Draw a Venn diagram that represents this survey and then answer the question that follows.



Question: How many people work part-time or live on campus?

Example: A survey was conducted in which 70 participants were asked about what genres of music they enjoy. Each participant chose one or more of the following choices: Rock, Country, Pop, or None of the three. The results are tabulated below. Draw a Venn diagram that represents the results of this survey and then answer the questions that follow.

- 26 chose Rock
- 31 chose Country
- 18 chose Pop
- 9 chose Rock and Country
- 7 chose Rock and Pop
- 5 chose Country and Pop
- 3 chose all three



Questions:

- a) How many people chose Rock or Country but not Pop?
- b) How many people chose only one of these genres?
- c) How many people chose exactly 2 of these genres?

Example: Suppose fifty students were surveyed and asked if they were taking a social science (SS), humanities (HM), or a natural science (NS) course next term. The survey found that 21 were taking SS, 26 were taking HM, and 19 were taking NS. Additionally, 9 were taking SS and HM, 7 were taking SS and NS, 10 were taking HM and NS, and 3 were taking all three.

Questions:

- a) How many students are only taking a SS course?
- b) How many students are taking SS or Humanities?
- c) How many students are taking at least 2 of these courses?

