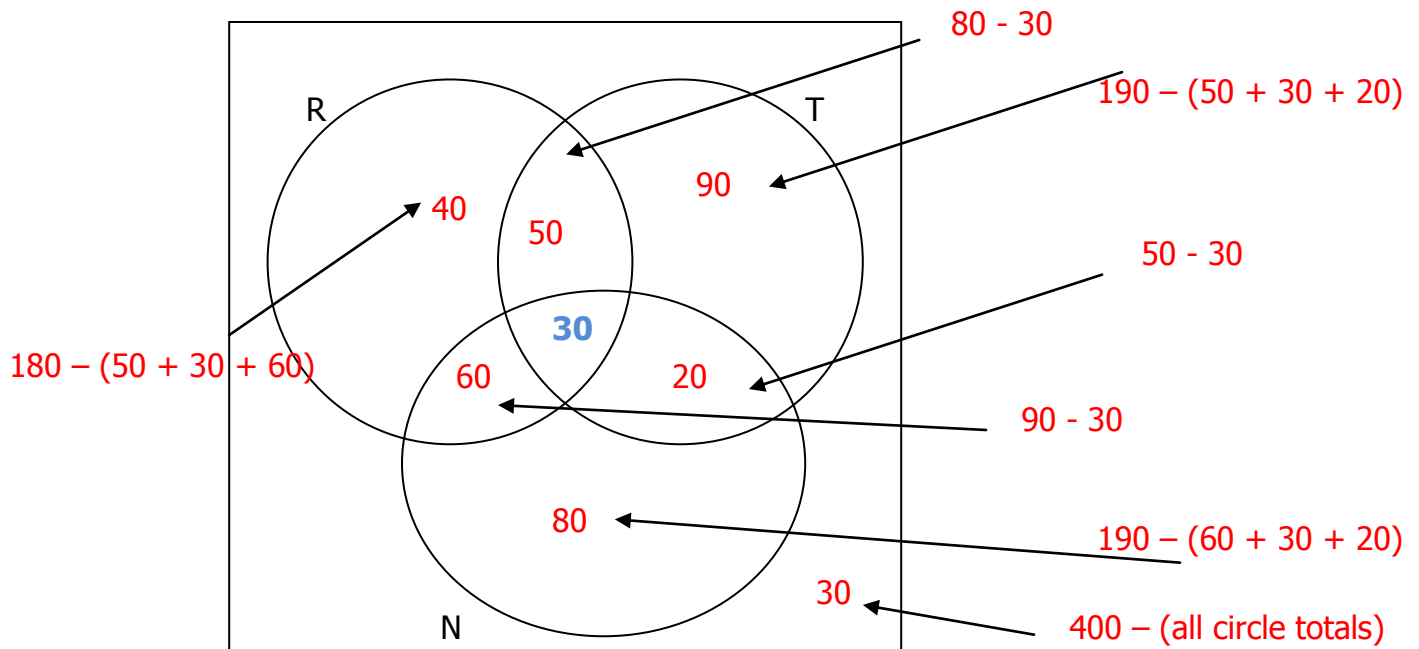
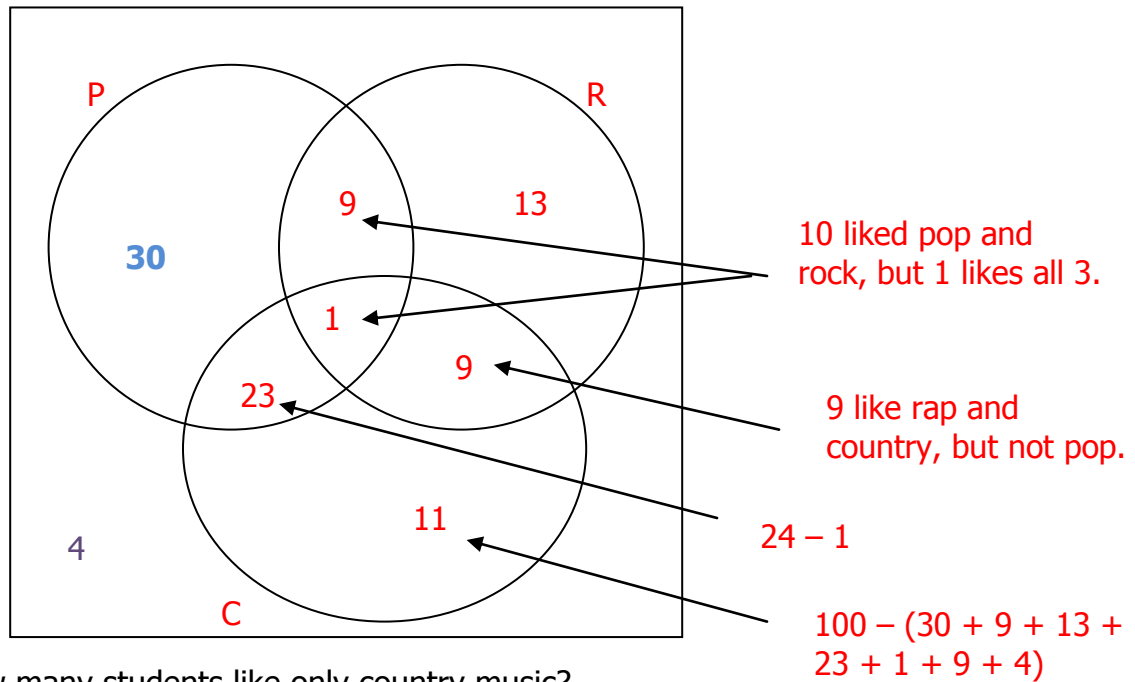


1. A merchant surveyed 400 people to determine the way they learned about an upcoming sale. The survey showed that 180 learned about the sale from the radio, 190 from television, 190 from the newspaper, 80 from radio and television, 90 from the radio and newspaper, 50 from television and newspaper, and **30** from all three sources.
- A. Draw a three-circle Venn diagram using the data above.



- B. How many people learned of the sale from only one of the three sources?
 $40 + 80 + 90 = 210$
- C. How many people learned of the sale from newspapers or radios but not both?
 $80 + 20 + 50 + 40 = 190$
- D. How many people learned of the sale only from newspapers?
 80
- E. How many people learned of the sale from the radio or the television (*or both*)?
 $40 + 50 + 90 + 60 + 30 + 20 = 290$

2. One hundred students were asked if they liked listening to pop, rap, or country music. Thirty-two students like rap music. Ten students liked pop and rap music, but only one of them liked all three kinds of music. Twenty-four students said they liked pop and country music. Thirty students like only pop music. Nine students like rap and country, but not pop music. Four students said they did not like any of the three types of music.
- A. Draw a three-circle Venn diagram using the data above.



- B. How many students like only country music?
11
- C. How many students like pop and country, but not rap music?
23
- D. How many students do not like rap music?
 $30 + 23 + 11 + 4 = 68$
- E. How many students either like country music or do not like rap music?
 $23 + 1 + 9 + 11 + 30 + 4 = 78$
- F. How many students like only one style of music?
 $30 + 13 + 11 = 54$
- G. How many students like at least one style of music?
 $100 - 4 = 96$