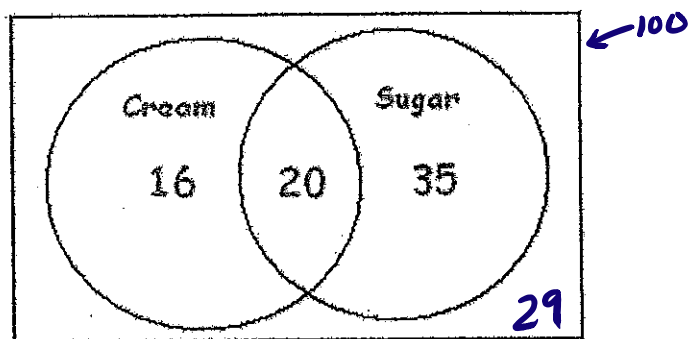


Math Analysis II Honors - Intro to Venn Diagram - Word Problems

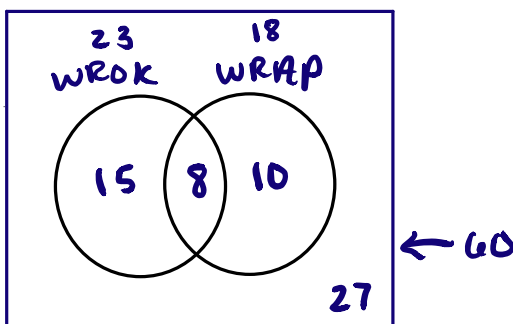
1) Stephen asked 100 coffee drinkers whether they like cream or sugar in their coffee. According to the partial Venn diagram below, how many like

- a) Cream? $C = 36$
- b) Sugar? $S = 55$
- c) Sugar but not cream? $S \cap \bar{C} = 35$
- d) Cream but not sugar? $C \cap \bar{S} = 16$
- e) Cream and sugar? $C \cap S = 20$
- f) Cream or sugar? $C \cup S = 71$
- g) Neither cream nor sugar? $\overline{C \cup S} = 29$



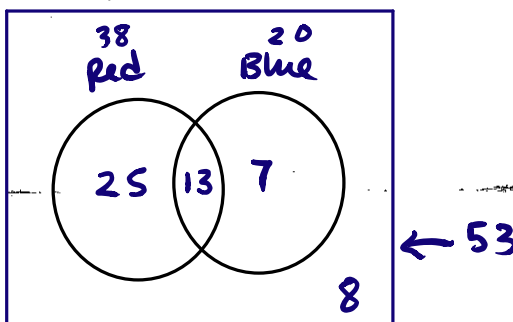
2) Eon asked 60 students whether they listen to two popular radio stations, WROK and WRAP. He found that 23 listen to WROK, 18 listen to WRAP, and 8 listen to both. Create a Venn diagram. How many students in Robert's survey listen to

- a) WROK but not WRAP? = 15
- b) WRAP but not WROK? = 10
- c) neither WROK nor WRAP? = 27



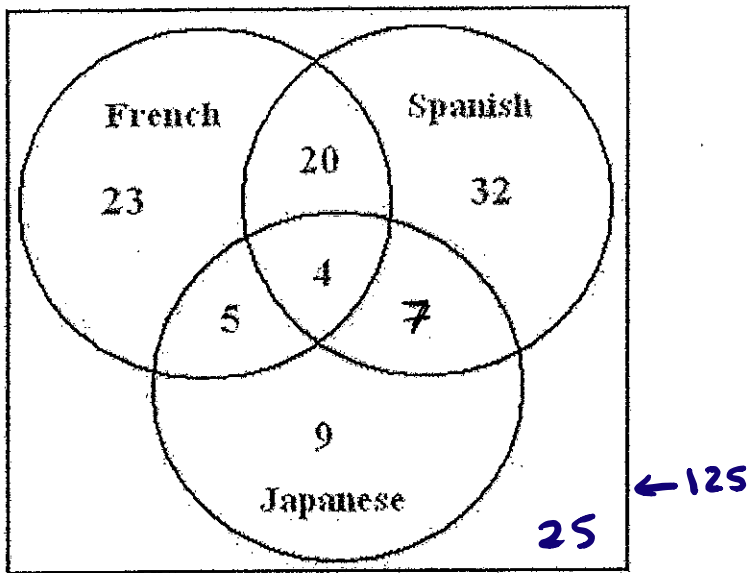
3) Oshkosh did a study of the colors used in African national flags. He found that 38 flags have red, 20 have blue, 13 have both red and blue, and 8 have neither red nor blue. Create a Venn diagram to represent the information given. How many flags

- a. have red but not blue? 25
- b. have blue but not red? = 7
- c. were included in the study? 53



4) Kroner asked 125 adults whether they had studied French, Spanish or Japanese in school. According to the partial Venn diagram below, how many had studied

- a. Spanish? **63**
- b. Spanish but not French? = **39**
- c. Japanese but not French? = **16**
- d. French and Spanish? = **24**
- e. French or Spanish? = **91**
- f. French and Spanish but not Japanese? = **20**
- g. French, Spanish, and Japanese? = **4**
- h. only French? **23**
- i. two of the 3 languages? **32**
- j. none of the 3 languages? **25**
- k. Japanese or French? **68**
- l. Spanish and Japanese but not French? = **7**



5. Coach Krutch offered to buy hot dogs for players on his team. Of the 44 players, 28 wanted ketchup, 20 wanted mustard, 14 wanted relish. Of these, 10 wanted ketchup and mustard, 11 wanted ketchup and relish, 8 wanted mustard and relish. Of these, 6 wanted all three condiments. Create a Venn diagram to represent the information given. How many players wanted:

- a. Ketchup only? **13**
- b. Mustard only? **8**
- c. Relish only? **1**
- d. Mustard but not relish? **12**
- e. Relish but not mustard? **6**
- f. Ketchup and mustard but not relish? **4**
- g. Relish and mustard but not ketchup? **2**
- h. Ketchup or mustard? **38**
- i. None of the three condiments? **5**

