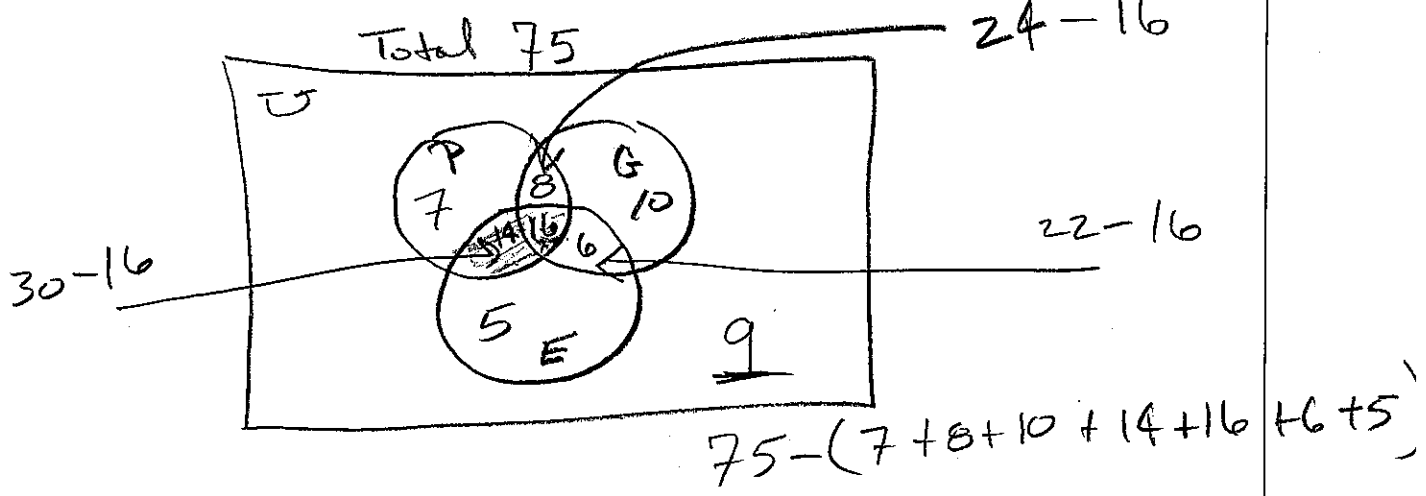
Practice 1: In a certain group of 75 students, 16 students are taking psychology, geology, and English; 24 students are taking psychology and geology; 30 students are taking psychology and English; and 22 students are taking geology and English. However, 7 students are only taking psychology, 10 students are taking only geology, and 5 students are taking only English.

a. How many of these students are taking psychology? $7+8+14+16=45$

b. How many of these students are taking psychology and English, but not geology? 14

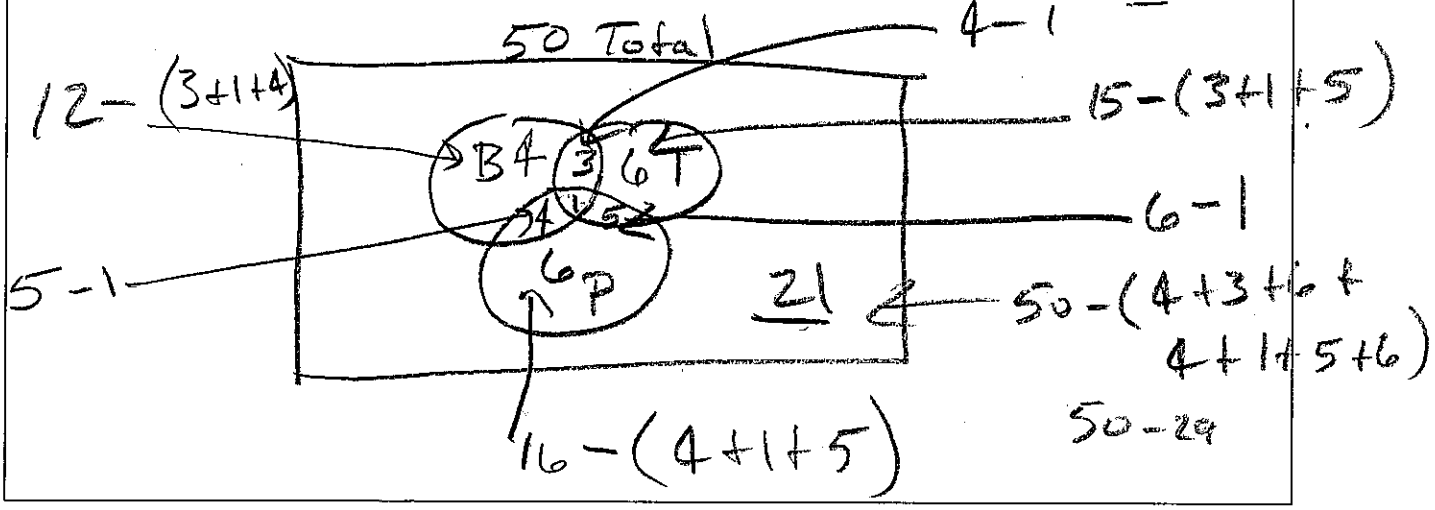
c. How many students in this group are not taking any of these three subjects? 9



Practice 2: At a meeting of 50 car dealers, the following information was obtained; 12 dealers sold Buicks, 15 dealers sold Toyotas, 16 dealers sold Pontiacs, 4 dealers sold both Buicks and Toyotas, 6 dealers sold both Toyotas and Pontiacs, 5 dealers sold both Buicks and Pontiacs, and one dealer sold all three brands.

a. How many dealers sold Buicks and neither of the other two brands? 4

b. How many of the dealers at the meeting did not sell any of these brands of cars? 21



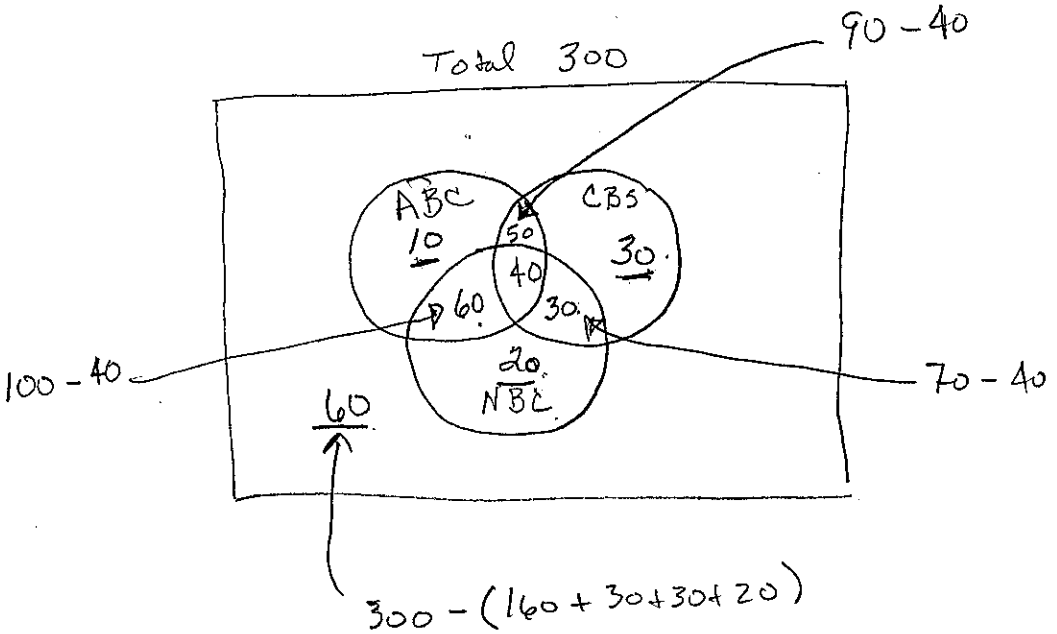
Practice 3: In a recent survey of 300 people regarding television programming, the following information was gathered: 160 people watched ABC, 150 people watched CBS, and 150 people watched NBC, while 90 people watched both ABC and CBS, 70 people watched CBS and NBC, and 100 people watched ABC and NBC. Forty people watched all three networks.

a. How many people watched ABC or NBC? 210 (160 + 50)

b. How many people watched only one of the networks? 10 + 30 + 20 = 60

c. How many people did not watch any of the networks? 60

d. How many people did not watch NBC? 300 − 150 = 150



Practice 4: In a recent survey of parents of 160 third graders regarding the extracurricular activities their children are in, the following information was gathered:

28 children were in gymnastics

60 children were in dance

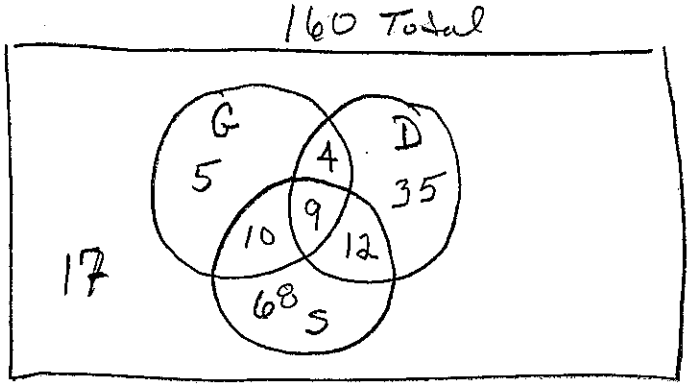
99 children were in swimming

13 children were in gymnastics and dance

21 children were in dance and swimming

19 children were in swimming and gymnastics

9 children were in all three activities



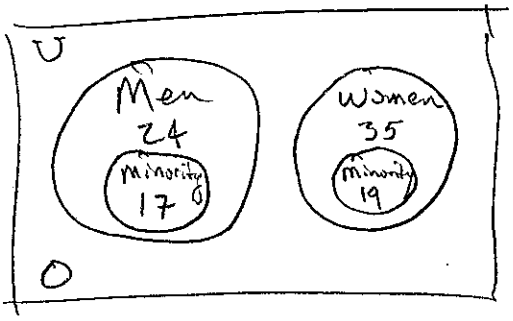
a. How many children were ONLY in dance and no other activity? 35

b. How many children were in dance or swimming? (Remember what "or" means) 138
$4+9+35+12+10+68$

c. How many children were in at least one of these activities? $160-17=143$

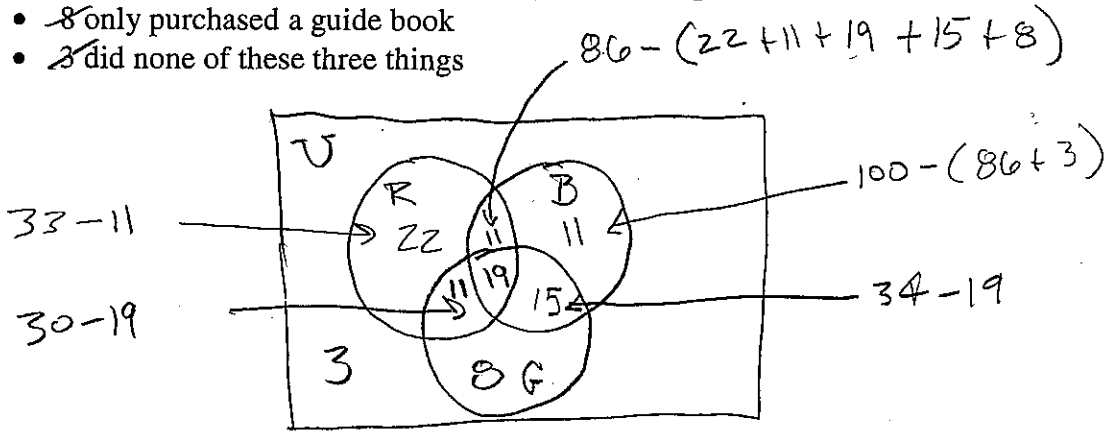
d. How many children were in at most two of these activities? $160-9=151$

Problem 32: There are 95 students who have applied for a scholarship. If there are 41 men and 36 minorities, 19 of whom are women, how many women applied for the scholarship? 54



Problem 34: A survey is taken of 100 people who vacationed at a dude ranch. The following information was obtained: R B G

- ~~19~~ took horseback riding lessons, attended the BBQ, and purchased a guide book.
- ~~34~~ attended the BBQ and purchased a guide book.
- ~~30~~ took horseback-riding lessons and purchased a guide book.
- ~~33~~ took horseback-riding lessons but did not attend the BBQ
- 86 took horseback-riding lessons or purchased a guide book
- ~~8~~ only purchased a guide book
- ~~3~~ did none of these three things



How many attended the BBQ or purchased the guide book? 75

How many did not purchase the guide book? 47