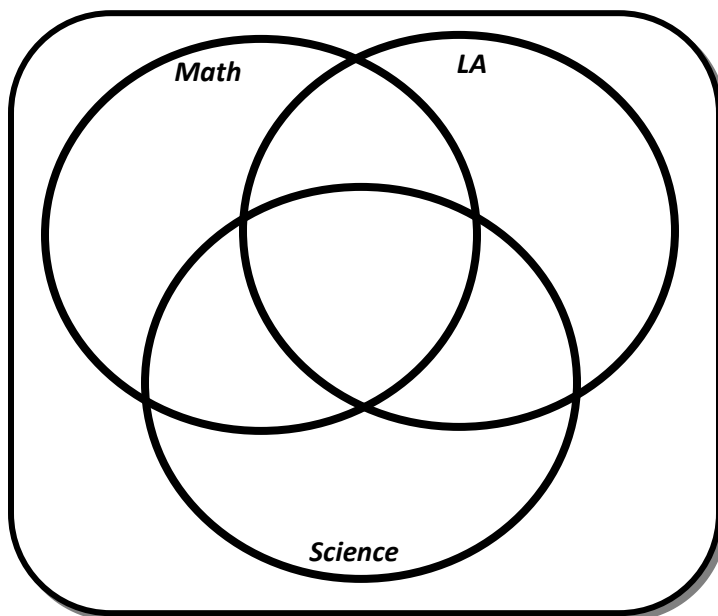
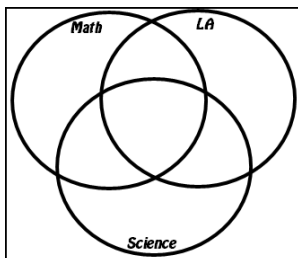


1. A. Make a VENN diagram of the following Chart showing what classes each student was enrolled in this semester.

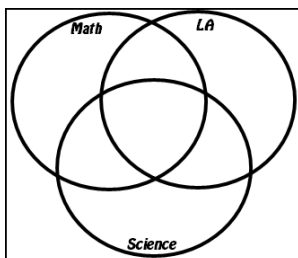
Name	Math	Language Arts	Science
Ashley	✓		✓
Betsy		✓	✓
Chris	✓	✓	✓
Devonte	✓	✓	
Eder	✓		✓
Frank			
George			✓
Heather		✓	
Isabella	✓		
Jessica		✓	
Krista	✓		



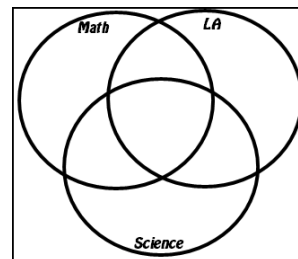
- B. (LA):



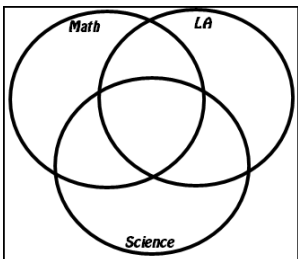
- C. $(Math \cap Science)$:



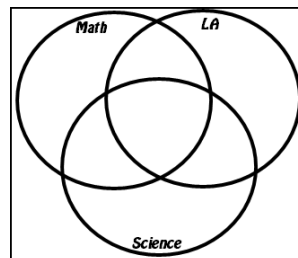
- D. $(Math)'$:



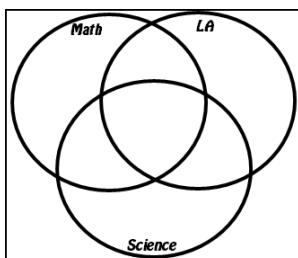
- E. $(Math \cup LA)$:



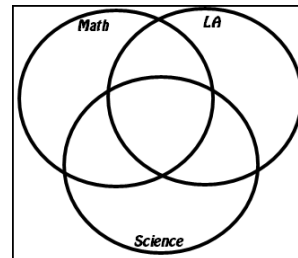
- F. $(Math \cup LA)'$:



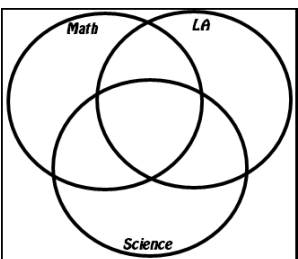
- G. $(Math \cap LA)'$:



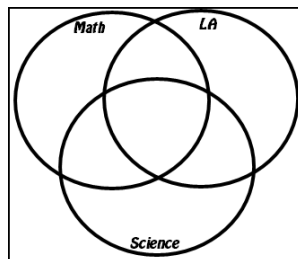
- H. $(Math \cap LA \cap Science)$:



- I. $(Math \cup LA) \cap (Science)$:



- J. $(Math \cap LA) \cup (Science)$:



2. Given $A = \{1, 2, 3, 6, 7, 9\}$, $B = \{2, 4, 6, 7, 8\}$, and $\Omega = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ answer the following.

A. $(A \cap B)$:

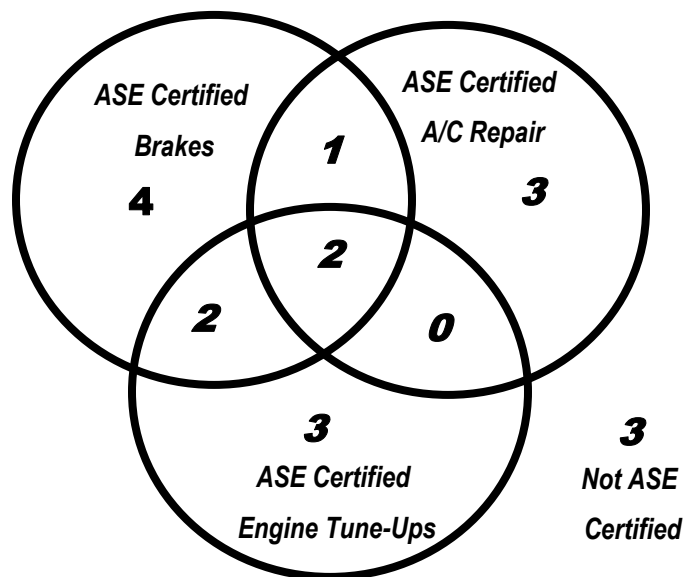
B. $(A \cup B)$:

C. $(A)'$:

D. $(A \cap B)'$:

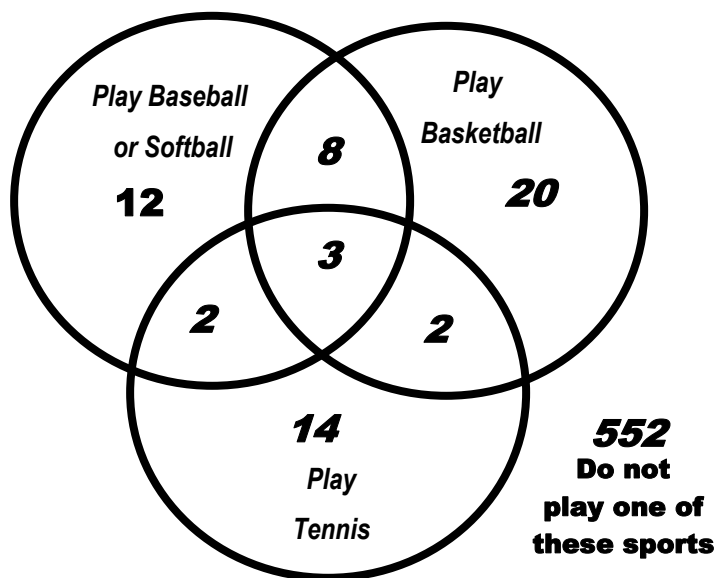
3. A manager that owns 3 local area Car Maintenance Garages was researching certifications of mechanics that worked for her company. Consider the following Venn diagram.

- How many mechanics worked for her company?
- How many of the mechanics are certified by ASE to do work on Brakes?
- How many of the mechanics are certified by ASE to do work on Brakes and Tune-Ups ($\text{Brakes} \cap \text{Tune-Ups}$)?
- How many of the mechanics are certified by ASE to do work on either A/C or Tune-Ups ($\text{A/C} \cup \text{Tune-Ups}$)??
- How many of the mechanics have their certification in Brakes or A/C but not in Tune-Ups???
($\text{Brakes} \cup \text{A/C}$) $\cap$ (Tune Ups)'



4. The following Venn diagram shows a breakdown of a small high schools sports program.

- How many students play only Tennis?
- How many students play basketball and tennis?
- How many students play basketball or softball/baseball?
 $\text{Basketball} \cup \text{Baseball/Softball}$
- How many students play baseball/softball or tennis but not basketball?
 $(\text{Baseball/Softball} \cup \text{Tennis}) \cap (\text{Basketball})'$
- How many students that play a sport do not play basketball?
- How many students attend this school?
- How many students do not play tennis in total?



5. In the state of Oregon, all of the area codes start with a number greater than 4 and end in an odd number (e.g. 503-232-1235, 971-923-5648). Let A represent the set of all area codes that start with an even number. Let B represent the set of all area codes that could be used in Oregon by the requirements stated earlier.

Which might be an area code that belongs to the set $(A \cap B)$?

- A. 403 B. 792 C. 892 D. 631

Which might be an area code that belongs to the set $(A \cap B')$?

- A. 403 B. 792 C. 892 D. 631

Which might be an area code that belongs to the set $(A' \cap B')$?

- A. 403 B. 792 C. 892 D. 631

6. In a particular state, the first character on a license plate is always a letter. The last character is always a digit from 0 to 9. Let V represents the set of all license plates beginning with a vowel, and O represents the set of all license plates that end with an odd number,

Which might be a license plate that belongs to the set $(V \cap O)$?

- A.  B.  C.  D. 

Which might be a license plate that belongs to the set $(V \cap O')$?

- A.  B.  C.  D. 

Which might be a license plate that belongs to the set $(V' \cap O')$?

- A.  B.  C.  D. 