

Instructions: Show all work. Use exact answers unless specifically asked to round. Be sure to complete all parts of each problem.

1. Suppose that A is the set of letters in the name SAMANTHA and B is the set of letters in the name LAWRENCE.

- a. List the elements of set A

$$\{S, A, M, N, T, H\}$$

- b. List the elements of set B

$$\{L, A, W, R, E, N, C\}$$

- c. Find $A \cup B$

$$\{A, C, E, H, L, M, N, R, S, T, W\}$$

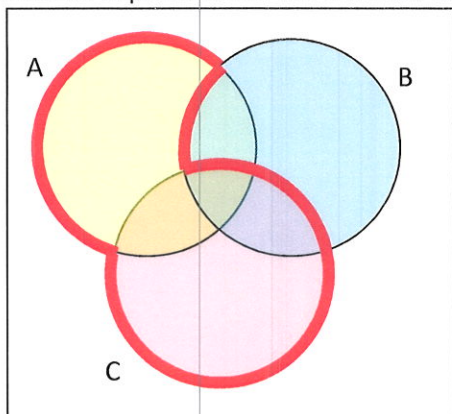
- d. Find $A \cap B$

$$\{A, N\}$$

- e. If U is the set of all letters in the standard English alphabet, what is B' ?

$$\{B, D, F, G, H, I, J, K, M, O, P, Q, S, T, U, V, X, Y, Z\}$$

2. Write an expression for the outlined region.



$$C \cup (A - B)$$

3. Use the information below to fill in the Venn Diagram. A survey asked people what alternative transportation modes they use. Then, determine:
- What percent of people only ride the bus?
 - How many people don't use any alternate transportation?

30% use the bus
20% ride a bicycle
25% walk
5% use the bus and ride a bicycle
10% ride a bicycle and walk
12% use the bus and walk
2% use all three

adds up to 100%

15% only ride bus

50% use none of these

