1) Suppose Friendly's has a $6.99 dinner option where you get to pick a soup, a sandwich, and a milk shake.
You have 2 choices for soup: Clam Chowder and Tomato Soup
You have 3 choices for sandwiches: Grilled Cheese, Turkey, and BLT
You have 3 choices for milk shakes: Vanilla, Chocolate, and Strawberry
If you are allowed to pick one soup, one sandwich, and one milk shake, how many different dinner combinations are there? _____
(An example of a dinner combination is Tomato Soup, Grilled Cheese, and a Vanilla milk shake.)

2)How many different three-digit numbers can be formed from the numbers {1,2,3,4,5,6,7,8,9}?
_____

3) How many different three digit numbers can be formed from these numbers if the digits in the number are to be **different** (i.e., 323, 233, or 333 are not allowed)? _____

4) Suppose the New Jersey license plates have 3 numbers followed by 3 letters. How many different license plates are possible this way? _____

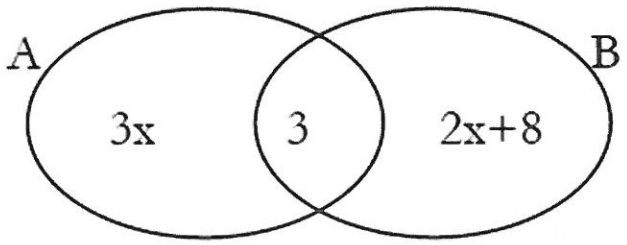
5) If there are 10 people at a meeting and every person shakes hand with every other person in the room except herself, how many handshakes occur?

6) Of the 28 students in Mr. Scevola's class 19 students watch The Bachelor and 17 students watch Modern Family. 2 students watch neither. Draw a Venn Diagram depicting as much information as possible.

7) Given that U = {1,2,3,4,5,6,7,8,9}, list the elements in the following set A = {x: $5x > 37$}.

8) Given that U = {1,2,3,4,5,6,7,8, 9}, list the elements in the following set B = {$x + 5 < 12$}.

9) Given the picture below, use the inclusion – exclusion principle to find n(AUB).



10) Let U = {p,q,r,s,t,u,v,w}, A={p,q,r,s}, B={r,s,t}, C={s,t,u,v,w}. List the elements of A∩B∩C

11) If 10 runners compete in a race, how many different ways can prices be awarded for 1st, 2nd and 3rd place?

12) The "home row" on a standard keyboard gives one arrangement of the letters A, S, D, F, G, H, J, K, L. How many *other* arrangements of these letters are possible.

13) The top row on a keyboard is the arrangement of the following letters: Q, W, E, R, T, Y, U, I, O, P. How many possibilities were there for the top row of letters on a keyboard?

14) In how many ways can 4 people be seated in a row of 12 chairs?