

# 6E and 6F - Venn Diagrams

Find the variance and standard deviation of the data set below.

33, 10, 19, 16, 32, 30, 20, 15, 12, 23

$\mu = 21$   
 Variance =  $\sigma^2 = 61.8$   
 Standard Deviation =  $\sigma = 7.861$

## Set and Probability Notation

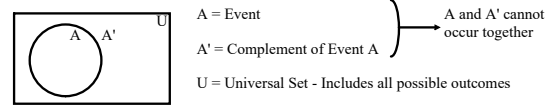
Probability of an event occurring =  $P(\text{Event})$

$$0 \leq P(\text{Event}) \leq 1$$

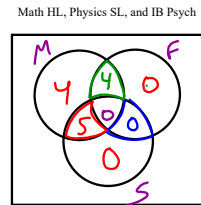
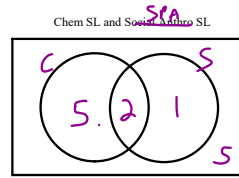
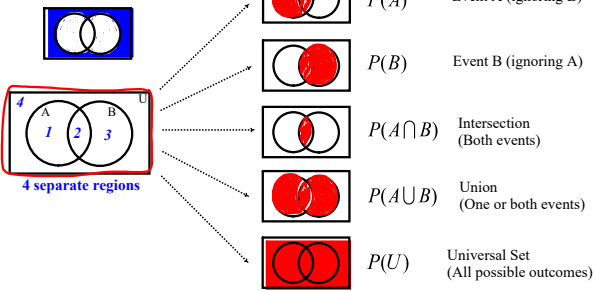
$\uparrow$  Never Occurs      Always Occurs  $\downarrow$

Examples:

- Probability of flipping a fair, 2 sided coin  $P(\text{Head}) = \frac{1}{2}$  or  $0.5$
- Probability of rolling a fair, 6-sided dice  $P(3) = \frac{1}{6}$  or  $0.1\bar{6}$



## Multiple Events



In a group of 50 students, 10 have blue eyes and blond hair and 12 have neither blue eyes nor blond hair. If the total number of students with blond hair is 34, find the total number of students with blue eyes.

