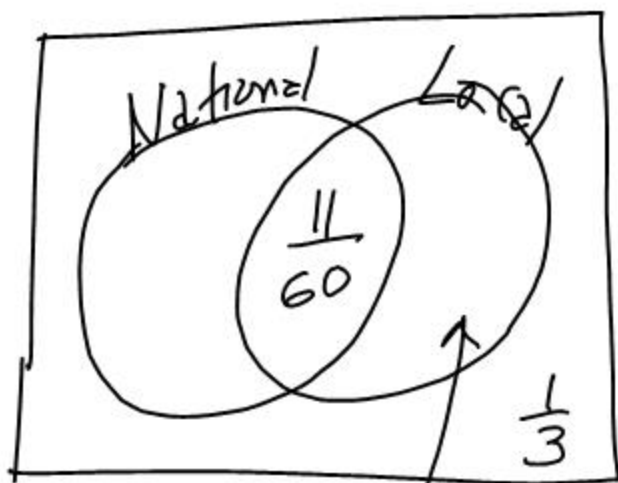


6E #4



$$\frac{1}{4} + \frac{3}{5} =$$

$$\frac{5}{20} + \frac{12}{20} = \frac{17}{20}$$

$$\frac{3}{5} - \frac{11}{60}$$

$$\frac{17}{20} - \frac{2}{3}$$

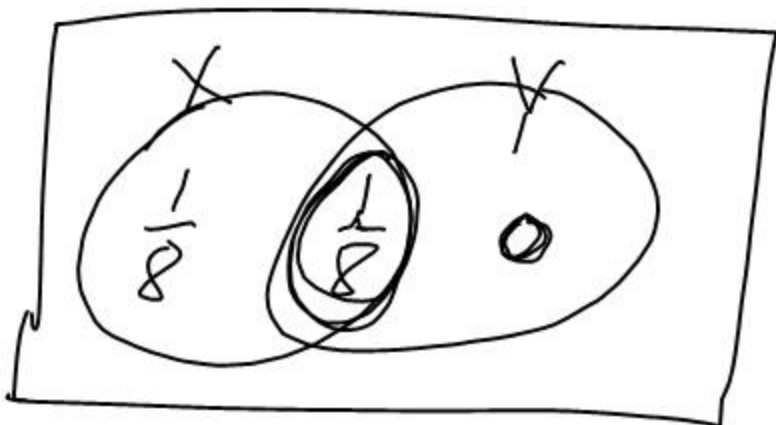
$$= \frac{51}{60} - \frac{40}{60} = \frac{11}{60}$$

$$P(N \cap L) = P(N) + P(L) - P(N \cup L)$$

$$= \frac{1}{4} + \frac{3}{5} - \frac{2}{3}$$

$$= \frac{15}{60} + \frac{36}{60} - \frac{40}{60} = \frac{11}{60}$$

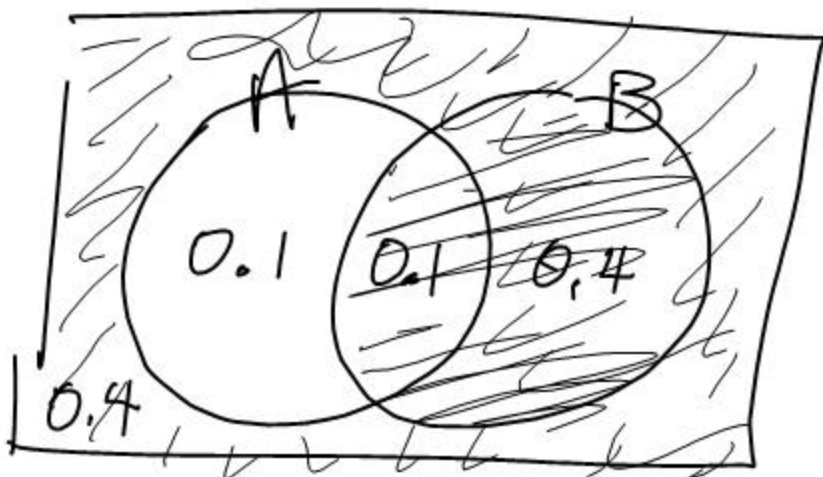
6F #4



$$P(X \cup Y) = \frac{1}{4}$$

$$P(X \cup Y)' = 1 - \frac{1}{4} = \frac{3}{4}$$

#5

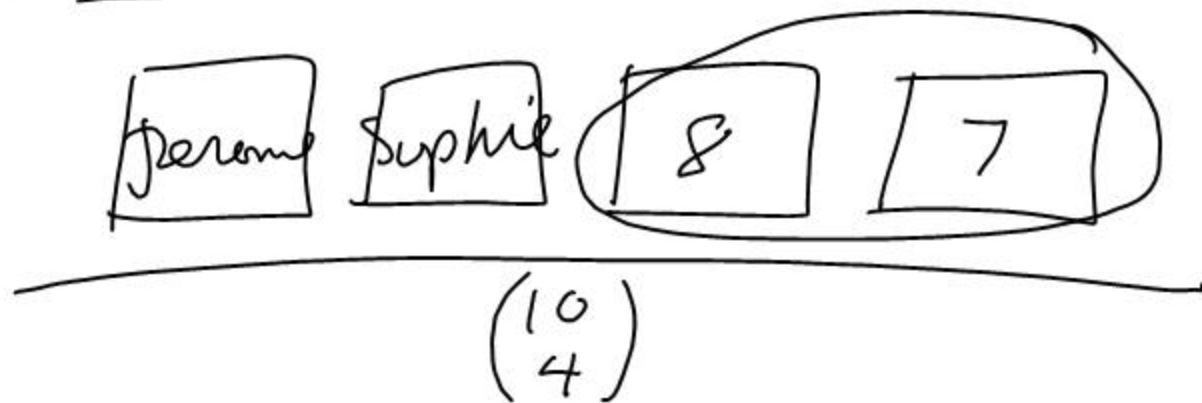


$$P(A \cup B) = 0.6$$

$$P(A \cup B)' = 0.4$$

$$P(A' \cup B) = 0.9$$

66 #1



$$= \frac{\binom{8}{2}}{\binom{10}{4}} \quad (8nC2)/(10nC4)$$

#26

$$\frac{\binom{5}{1} \binom{3}{1}}{\binom{8}{2}}$$

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## HW quiz 8/27

A bowl has 5 red marbles and 6 green marbles. Draw 2.

(a)  $P(2 \text{ reds})$

(b)  $P(1 \text{ of each})$

---

## Independent Events

$$P(A \cap B) = P(A) \cdot P(B)$$

$$A = \boxed{1} \text{ on } 1^{\text{st}} \text{ roll}$$

$$B = \boxed{1} \text{ on } 2^{\text{nd}} \text{ roll}$$

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## Mutually Exclusive Events

$$P(A \cap B) = 0$$

# Conditional Probability

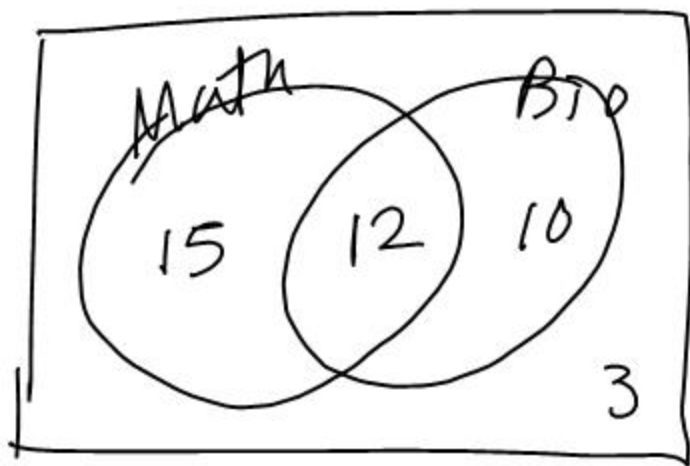
$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

the probability of A given B

Ex. There are 22 students in HL Bio,  
27 students in HL Math  
3 students in neither  
40 students total.

Choose a student at random.

$$P(\text{HL Math} | \text{HL Bio}) = \frac{12}{22}$$



$$\begin{array}{r} 22 \\ 27 \\ \hline 49 \\ -37 \\ \hline 12 \end{array}$$

HW

6A #1-4

6I #3

6J #2, 7

