# ALGEBRA 4

Day 60

# Bell Work

What do we need to talk about from the review?

# Things to Study

Level 2:

Fundamental Counting Principal
Combination & Permutation
Probability
Mutually Exclusive
Independent vs Dependent

Level 3:

Set up & Solve Combination and Permutation
Probability with multiple events

Level 4:

Set up and solve your own probability problems

# Quiz From Last Time with Answers

# Quiz: Level 2

- You have 10 shirts and 8 pairs of pants. How many outfits could you wear?

- A bag has 6 red, 4 green, and 10 blue marbles.

  *Find P(green)* *P(not red)*

- Is the following independent or dependent: a student flips a coin and they roll an even number on a die?

# Quiz: Level 2

- You have 10 shirts and 8 pairs of pants. How many outfits could you wear? ***Answer: 80***

- A bag has 6 red, 4 green, and 10 blue marbles.

  *Find P(green)*
  ***Answer: 4/20***

  *P(not red)*
  ***Answer: 14/20***

- Is the following independent or dependent: a student flips a coin and they roll an even number on a die?

  ***Answer: Independent***

# Quiz: Level 3

- If you have 6 novels, and 4 comic books in your backpack. How many ways can you randomly select two of them to read?

- A bag has 6 red, 4 green, and 10 blue marbles.

  *Find P(green or red)*

  *P(red then red)* [*with* & *without* replacement]

# Quiz: Level 3

- If you have 6 novels, and 4 comic books in your backpack. How many ways can you randomly select two of them to read?

  ***Answer: 10C2 = 45***

- A bag has 6 red, 4 green, and 10 blue marbles.

  *Find P(green or red)* ***Answer: 10/20***

  *P(red then red)*

  | | *with* | *without* |
  |---|---|---|
  | ***Answer:*** | ***6/20 * 6/20*** | ***6/20 * 5/19*** |
  | | *9/100* | *3/38* |

# Quiz: Level 4

The dance coach has decided to randomly choose 4 players to represent the team as captains. The team consists of 12 seniors and 8 juniors. What is the probability that only one senior will be chosen at random?

# Quiz: Level 4

The dance coach has decided to randomly choose 4 players to represent the team as captains. The team consists of 12 seniors and 8 juniors. What is the probability that only one senior will be chosen at random?

$(12C1 / 20C4) = 12/4845$

$= 4/1615 = 0.00247 = 0.247\%$

# Review Assignment

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# Formulas for Test

$$ {}_nP_r = \frac{n!}{(n-r)!} $$

$$ {}_nC_r = \frac{n!}{(n-r)!\cdot r!} $$

$$ \boldsymbol{P(B|A) = \frac{P(A \text{ and } B)}{P(A)}} $$

$$ P(A \textbf{ and } B) = P(A) * P(B) $$

$$ P(A \textbf{ and } B) = P(A) * P(B|A) $$

$$ P(A \textbf{ or } B) = P(A) + P(B) - P(A \text{ and } B) $$