Key difference between Permutations and Combinations

Write an example of a question you would use permutations to solve.

Write an example of a question you would use combinations to solve.

Counting:

A restaurant offers 4 sizes of pizza, two types of crusts, 3 types of sauces, and 10 different toppings. How many different kinds of pizza can you order with only 1 topping?

Counting:

How many different ways can we arrange 5 paintings on the wall if we want to hang them all in a straight horizontal line?

Counting:

You have to read 5 books off of a list of 30 books your teacher has provided you. How many different sets of 5 books could you read?

Counting:

On a test, students must answer 8 of the first 10 questions and 4 of the last 6. How many different ways can this test be taken?

Counting:

You are choosing gifts for 3 friends. You are choosing out of 8 possible gifts. How many ways can you give one gift to each of your 3 friends?

Counting:

A license plate has 3 letters followed by 2 digits.

How many possible license plates are possible if numbers can be repeated,?

How many license plates are possible if numbers cannot be repeated?

Counting:

How many distinguishable arrangements of the word COMMITTEE are there?

Write the Binomial Expansion

$(a + b)^7$

Write the Binomial Expansion

$(a - b)^5$

Experimental vs Theoretical Probability

What’s the experimental probability of drawing a heart?

How does that compare with the theoretical probability?

Diamonds	𝍸 ||
Hearts	𝍸 ||||
Spades	𝍸 𝍸 |
Clubs	|||

What is the probability of drawing 2 consecutive kings, without replacement, from a standard deck of 52 cards?

There are 16 white, 7 red, 8 blue, and 9 black cars in a car lot. You randomly pick a set of keys to one of the cars what are the odds of choosing a set of keys to a blue car?

How can you tell when events are independent or dependent?

Write an example of two independent events.

Write an example of two dependent events.

You randomly choose a marble from a bag of 8 green marbles and 5 blue marbles. You randomly draw another marble without replacing the first marble.

Event A: You draw a blue marble.
Event B: You draw a blue marble

Independent or Dependent?

Find the Probability:

You are choosing a number between 1 and 10.

Event A: Picking an even number.
Event B: Picking a number less than 5.

Are events A and B overlapping or disjoint?

What is the probability of picking a number that is even *or* less than 5?

On your way to school, you notice that the light at an intersection is red 2 out of every 3 times. What is the probability that the traffic light is green on 4 out of the 5 days this week?