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| NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_ | **Prob and Stats** |
| Combinations | **DATE: Wednesday, May 11, 2022** |

Warmup:

Of all voters, 31% are Democrats, 24% are Republicans and 45% are independent/undecided.  Of democrats, 3% would vote for Trump at this point.  Of Republicans 83% would and of undecided 38% would.  If the election were held today, find probability that if you choose a random voter, they would vote for Trump?

You probably have noticed, Mr. Borland doesn’t have too many different clothes.  I have three different colored school pants (dark blue, khaki, and brown) and I have 5 different shirts (flannel, blue, plaid, sweater, and green).

How many different outfits can I put together (make a tree diagram if you need to)?

What is the probability that I will look good?

1. There are 8 appetizers and 5 entrees and 6 desserts. If you pick one of each, how many options are there?
2. In our class of 19 students (11 female, 8 male), we are going to select 2 students to represent our class at a meeting. We want to pick 1 female, 1 male. How many ways can we do this?
3. You remember your ATM code is made up of the digits 2,5,9,0 – in any order. How many different codes are there using those 4 numbers?
4. Im going to randomly pick up students for extra credit. The first gets 5 points, second 3, next one 2 and last 1 point extra credit. How many different ways can 4 students be selected from 21 students?
5. In our class of 14 students, we are going to select 4 students to represent our class at a meeting. How many ways can we do this?
6. There are 9 people on the basketball team, how many different groups of 5 starters are there?
7. There are 9 people on the basketball team, how many different ways can you pick 5 starts when position matters?
8. How many ways can a family of 5 line up for a photograph?
9. Choosing the first, second, and third-place finishers in a race with 10 competitors.

Challenge:

1. There are 8 appetizers and 5 entrees. You and your date are going to get two of each to share. How many different combinations of items could you get?
2. In our class of 19 students (11 female, 8 male), we are going to select 4 students to represent our class at a meeting. We want to pick 2 female, 2 male. How many ways can we do this?