

Please complete the following problems for homework. Check Mrs. Kent's website for due dates. **Homework is an independent assignment and must be completed without assistance from other students.** Students may not use unauthorized assisted devices on this assignment, including but not limited to Excel or other computer software/programs/devices. A handheld calculator to assist with arithmetic may be used. All problems must show all work on this paper (or an attached paper) to receive any credit since partial credit is only available on tests or quizzes.

1. A pizza can be ordered by choosing from two types of crust (pan or thin) and four types of toppings (bacon, olives, ham, or peppers). Draw a tree diagram which represents all of the combinations of pizza that can be ordered.

2. A student has many choices on what to wear to school. Students must select a shirt, which can be white, blue or maroon, and choose pants which can be khaki or blue. Draw a tree diagram which shows all of the possible combinations of outfits a student can wear.

3. School supplies are available with lots of options. Students much choose one notebook (available in blue, green, or red), one pencil (available in black or orange), and one binder (available in grey, white, or yellow). Draw a tree diagram which represents all of the combinations of school supplies a student can select.

4. A bag contains 20 yellow marbles, 20 blue marbles and 20 red marbles. Two marbles are selected at random from the bag, one at a time, with replacement.
- Represent the sample space using a tree diagram

- Hence, find the probability of selecting:
 - A yellow marble first, followed by a blue marble
 - A yellow marble and a blue marble
 - Two marbles of the same color
 - Two marbles of different colors
 - Two marbles which are not yellow