

Name \_\_\_\_\_

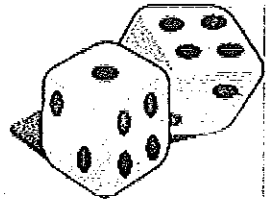
### Plenty of Possibilities - Homework

1) You are buying new eyeglasses and must choose the frame material and shape. The frame material can be plastic or metal. The frame shape can be rectangular, oval, cat's eye, or round. How many different frames are possible? Solve with a tree diagram.

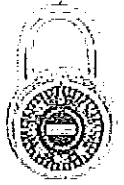


2) Now, suppose each of the different eyeglasses also comes in 2 colors, black and red. Add the new choices to your tree diagram.

3) You roll a blue and a red number cube. How many different outcomes are possible?

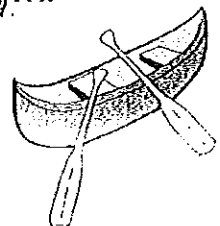


4) A combination lock has 40 numbers on its dial. To open the lock, you must turn the dial right to the first number, left to the second number, then right to the third number. You randomly choose three numbers on the lock. How many possible outcomes are there? What is the probability of choosing the correct outcome?



5) At school, you can join soccer, hockey, after-school tutoring, weight lifting, art and debating. You decide to choose one sports-related activity and one nonsports-related activity. How many possible combinations of activities do you have?

6) Find the number of possible combinations for a 2-person canoe when there are 3 people, Rick, Angie and Theo.



7) A company places a 6-symbol code on each unit of product. The code consists of 4 digits, the first of which is the number 5, followed by 2 letters, the first of which is NOT a vowel. How many different codes are possible?

8) Next semester you are going to take one science class, one math class, one history class and one english class. According to the schedule you have 4 different science classes, 3 different math classes, 2 different history classes, and 3 different English classes to choose from. Assuming no scheduling conflicts, how many different four-course selections can you make?

9) Harry Hat Boy has 5 pairs of pants, 5 shirts, 3 pairs of socks and 8 hats. How many different choices of outfits does he have?

10) Your state issues license plates consisting of letters and numbers. There are 26 letters and the letters may be repeated. There are 10 digits and the digits may be repeated. How many possible license plates can be issued with two letters followed by three numbers?



11) Carrie Cold Feet has 6 pairs of pants, 2 shirts, 4 socks, 4 shoes and 2 hats in her closet. How many different outfits can she make?