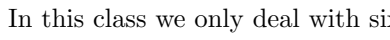
1. You can order a designer clothing item in any of seven colors and any of three fabrics. How many different possibilities are there?

2. One movie theater has 2 movies showing, another has 12 other movies showing.

(a) If you decide to go to one theater or the other, how many movies can you choose between?

(b) If you decide to go to both theaters to compare a pair of movies, how many choices do you have?

(c) If you want to see if it matters which one you saw first, how many choices do you have?

3. In this class we only deal with six-sided dice ().

(a) If you roll one die of each color, how many possibilities are there?

(b) How many of those possibilities have an odd sum? ( sums to 5, which is odd)

(c) Why is this wrong? "The sum is between 1 and 12, and half of those numbers are odd, so the answer is half of part (a)'s answer."

4. In this class coins have two sides (H and T).

(a) If you flip a penny, a nickel, and a dime, how many ways can they land? **Make a list.**

(b) How many of those ways have more heads than tails?

(c) Give a simple reason that the answer to (b) is half as big as the answer to (a).

5. A restaurant offers 5 appetizers, 10 entrées, and 6 desserts.

(a) How many possible three course meals are there?

(b) If the restaurant wants to increase the answer to part (a) the most, should it add one more appetizer, one more entrée, or one more dessert?

6. (a) How many ways can you arrange two letters of the word HORSEY?

(b) (hard?) How many ways can you arrange two letters of the word HIPPOPOTAMUS?