Geometry (HSS-CP.B.9) Name: _____

Unit Six: Probability Fundamental Counting Principle (HW6) Date: _____ Period: _____

1. Use the fundamental counting principle to determine the sample space size (how many possible outcomes there are).

a) Flipping a coin 5 times

b) The number of outfits that can be worn if Henry has 5 t-shirts, 4 pairs of pants, and 3 pairs of shoes.

c) The different type of sandwiches if you can pick from bread (white, wheat, rye), meat (ham, turkey, roast beef), and filler (pickles, lettuce, tomatoes, peppers, olives).

d) To get to her class from outside the school there are 5 different doors to enter and then 2 different stair cases to use.

e) A multiple choice test has 5 questions (each question has 4 possible selections)

f) From a standard deck of cards, select a card, replacing it, and then selecting again.

g) Selecting a marble from a bag of 3 red, 5 green and 12 yellow, replacing it, and then selecting again.

h) A 6 digit combination lock that uses values 0 – 5 where repetition is not allowed

i) 10 true/false questions

2. A student is creating a course schedule of 7 Calculus classes, 5 Psychology classes, and 3 Chemistry classes that don't conflict with each other. How many different schedules are possible?

3. License plates in most states have 3 alphabetic values followed by 3 numeric values. If there are not restriction the plates, what is the total number of plates possible?

4. Police use photographs of various facial features to help witnesses identify suspects. One basic identification kit contains 210 hairlines, 77 eyes and eyebrows, 85 noses, 121 mouths, and 70 chins and cheeks. The developer of the identification kit claims that it can produce billions of different faces. Is this claim correct?