 Name_____

Sample Spaces and the Counting Principle

Date_____ Period____

Represent the sample space using set notation.

1) An ice cream stand offers four flavors: strawberry, chocolate, vanilla, and mint chocolate chip.

2) A bagel shop has two types of bagels: plain and onion.

3) A jewelry store sells rings with either a ruby, sapphire, or emerald gemstone.

4) A bag contains two red marbles and three blue marbles. You randomly pick a marble.

5) A basket contains one apple, one peach, and one orange. You randomly pick a piece of fruit to eat. Then you pick another piece to eat later.

6) A coffee shop offers small, medium, and large sizes. Customers can choose between French roast, Italian roast, and American roast.

Find the number of possible outcomes in the sample space.

7) The chess club must decide when and where to meet for a practice. The possible days are Tuesday, Wednesday, or Thursday. The possible times are 3, 4, or 5 p.m. There are ten classrooms available.

8) A padlock's combination is four digits long.

9) A basketball player attempts five free throws. Each attempt results in a score or a miss.

10) A math quiz has five multiple choice questions. Each question has four options: A, B, C, and D.

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{strawberry, chocolate, vanilla, mint cc}

2) A bagel shop has two types of bagels: plain and onion.

{plain, onion}

3) A jewelry store sells rings with either a ruby, sapphire, or emerald gemstone.

{ruby, sapphire, emerald}

4) A bag contains two red marbles and three blue marbles. You randomly pick a marble.

{red_1, red_2, $blue_1$, $blue_2$, $blue_3$}

5) A basket contains one apple, one peach, and one orange. You randomly pick a piece of fruit to eat. Then you pick another piece to eat later.

{(A, P), (A, O),
(P, A), (P, O),
(O, A), (O, P)}

6) A coffee shop offers small, medium, and large sizes. Customers can choose between French roast, Italian roast, and American roast.

{(S, F), (S, I), (S, A),
(M, F), (M, I), (M, A),
(L, F), (L, I), (L, A)}

Find the number of possible outcomes in the sample space.

7) The chess club must decide when and where to meet for a practice. The possible days are Tuesday, Wednesday, or Thursday. The possible times are 3, 4, or 5 p.m. There are ten classrooms available.

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