

SECONDARY MATH II  
PROBABILITY – DOMAIN 4  
INDEPENDENT PROBABILITY

NAME \_\_\_\_\_  
DATE \_\_\_\_\_  
CLASS \_\_\_\_\_

1. You are going to choose a letter randomly from the Alphabet. Answer the following questions about this task.
  - a. List the sample space.
  - b. List a subset of the sample space using the letters in your first name.
  - c. List a subset of the sample space using the letters in your last name.
  - d. Find the Union of the sets in parts b and c.
  - e. Find the Intersections of the sets in parts b and c.
2. Given the sample space  $S = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$  with Event  $A = \{3, 4, 5, 6, 7\}$  and Event  $B = \{1, 2, 3, 4, 5\}$ ,
  - a. Draw a Venn Diagram representing the sample space with events A and B.
  - b. List all the outcomes for  $A \cup B$ .
  - c. List all the outcomes for  $A \cap B$ .
  - d. List all the outcomes for  $A^c$ .
3. You are given a standard 52-card deck. Event A is defined as choosing a red card and event B is defined as choosing a diamond card.
  - a. List all the outcomes for  $A \cup B$ .
  - b. List all the outcomes for  $A \cap B$ .
  - c. What is  $\sim A$ ?
  - d. What is  $A \cap A^c$ ?