

Name: _____ Student#: _____ Date: _____

COMP 2711: Discrete Mathematical Tools for Computer Science

In Class Exercise #10

1. Two coins are placed in a bag. One of them is a fair coin, while the other is a special coin with tails on both sides. One of the coins is picked from the bag at random and this coin is tossed 2 times. Let A_i ($i = 1, 2$) be the event that the coin comes up tail on the i -th toss.

(a) Calculate $P(A_1)$ and $P(A_2)$.

(b) Calculate $P(A_2 \mid A_1)$.

(c) Calculate $P(A_2 \cup A_1)$.

(d) Are A_1 and A_2 independent? Why?