

Name \_\_\_\_\_

Student Number \_\_\_\_\_

## STA256H5F Quiz 5

Let  $X \sim \text{Poisson}$  with  $\lambda=2$

1. (3 marks) Find  $P((X=1) \cap (X=2))$ .

0

2. (3 marks) Find  $P(X>1|X \neq 1)$

$0.594/0.729 = 0.8148$

3. (4 marks) Let  $Y$  be the number of people in line at any given coffee shop at UTM, with  $Y \sim \text{Poisson}$ ,  $\lambda = 10$  (a good reason not to buy coffee). What is the probability that there is nobody at Tim Hortons, Second Cup and Starbucks (3 consecutive coffee shops) at the same time?

$e^{-10 \cdot 3}$

Good Luck!