**Statistics 251: Lab 2**

**Handout**

First Name: Musa Last Name: Rasheed .

Student Number: \_\_\_\_\_25618232\_\_\_\_\_\_\_\_\_\_\_\_\_

Students should write the name they are registered with. Do not put nicknames/short forms on the handout. Please write down your answers neatly and do show your work.

1. Let be the speed of the first skytrain, be the speed of the second skytrain, and be the speed of the third skytrain. Please remember to use proper notation in your solutions.

The probability that is

Or 2.7%

So the chances 1 sky train goes <=60 is 90%, and since they are independent, the chances that all 3 did this is:

The probability that no train went more than 80 is:

So the probability that at the very least 1 train went more than 80 km/hr is

The sum of all these probabilities is 0.028 or 2.8%

1. Let be the event that skytrain 1 breaks down, be the event that skytrain 2 breaks down, and be the event that skytrain 3 breaks down. Please remember to use proper notation in your solutions.
2. [hint: consider dividing the chain into 2 parts]

Since train 3 can work 100% of the time, it does not matter if train 2 breaks down! The only thing that would make the system fail is if train 1 broke, therefore:

90% reliability