

Question 1.

a)

i) 0.0875%

ii) 0.2375%

iii) 0.1625%

b) Yes they are independent of each other. The door can be hot but not noisy and still be safe, the same can be said vice-versa. There seems to be no relationship between them that states one needs to be a certain value while the other needs to be a certain value.

c) 0.3625%

d) 0.2625%

e) There are a total of 23 doors that are noisy but not hot. Of these 23 doors, 0.56% of the time, the door is safe. This means that if you encounter a door that is noisy but not hot, you should open the door. You have a higher chance of being safe than you do being not.